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National Energy Board

Reasons for Decision

**TransCanada PipeLines
Limited**

GH-2-94



September 1994

Facilities

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Abbreviations

Abitibi-Price	Abitibi-Price Pulp and Paper Mill
Act	<i>National Energy Board Act</i>
Amoco	Amoco Canada Petroleum Company Limited
the assessments	environmental and socio-economic assessment reports
Bay State	Bay State Gas Company
Bcf	billion cubic feet
Bcf/d	billion cubic feet per day
Board, NEB	National Energy Board
Celanese	Celanese Canada Inc.
Centra Gas	Centra Gas Ontario, Inc.
Con Edison	Consolidated Edison Company of New York, Inc.
Consumers' Gas	Consumers' Gas Company Ltd. (The)
Crestar	Crestar Energy Limited
Daishowa	Daishowa Inc.
dBA	decibels ('A' weighted)
DFO	Department of Fisheries and Oceans
DLN	dry, low NO _x
DOE/FE	U.S. Department of Energy/Office of Fossil Energy
EARP Guidelines Order	<i>Environmental Assessment and Review Process Guidelines Order</i>
Eastern Canada	Manitoba, Ontario and Québec
EIL	Environmental Issues List
EPN	Early Public Notification
ERCB	Energy Resources Conservation Board

FERC	U.S. Federal Energy Regulatory Commission
FS	Firm Service
FST	Firm Service Tendered
GH-1-89	Hearing Order GH-1-89 in respect of TransCanada's application for 1990 facilities and various applications for natural gas export licences
GH-5-89	Hearing Order GH-5-89 in respect of TransCanada's application for 1991 and 1992 facilities and various applications for natural gas export licences
GH-3-91	Hearing Order GH-3-91 in respect of various applications for natural gas export licences
GH-4-91	Hearing Order GH-4-91 in respect of TransCanada's application for 1992-93 facilities
GH-4-92	Hearing Order GH-4-92 in respect of TransCanada's application for 1993-94 facilities
GH-2-93	Hearing Order GH-2-93 in respect of TransCanada's application for 1994-95 facilities
GH-5-93	Hearing Order GH-5-93 in respect of various applications for natural gas export licences
GH-3-94	Hearing Order GH-3-94 in respect of various applications for natural gas export licences
GHW-3-89	Hearing Order GHW-3-89 in respect of information on gas supply to be provided by TransCanada in support of its 1991 and 1992 facilities
GMi	Société en Commandite Gaz Métropolitain, inc.
Great Lakes	Great Lakes Gas Transmission Limited Partnership
Iroquois	Iroquois Gas Transmission System, L.P.
Kingston CoGen	Kingston CoGen Limited Partnership
km	kilometre(s)
kPa	kiloPascals
LDC	local distribution company

m	metre(s)
m ³	cubic metres
m ³ /d	cubic metres per day
MING	Many Islands Natural Gas (Canada) Ltd.
MLCP	Ministère du Loisir, de la Chasse et de la Pêche
MMcfd	million cubic feet per day
MOEE	Ministry of Environment and Energy
MW	megawatts
Navy Yard Partners	Brooklyn Navy Yard Cogeneration Partners, L.P.
NEB, Board	National Energy Board
Northern Utilities	Northern Utilities, Inc.
Northland Power	Northland Power Iroquois Falls Partnership
NOVA	NOVA Corporation of Alberta
NO ₂	nitrogen dioxide
NO _x	oxides of nitrogen
OMNR	Ontario Ministry of Natural Resources
OPCC	Ontario Pipeline Coordinating Committee
PanCanadian	PanCanadian Petroleum Limited
Paramount	Paramount Resources Ltd.
PPBR	plans, profiles and books of reference
Québec Cogen	Société de Cogénération de Québec, Société en Commandite
Renaissance	Renaissance Energy Ltd.
Sproule	Sproule Associates Limited
STS	Storage Transportation Service
Tcf	trillion cubic feet

TransCanada	TransCanada PipeLines Limited
Union	Union Gas Limited
U.S.	United States of America
VGS	Vermont Gas Systems Inc.
WGML	Western Gas Marketing Limited
WIA	Woodlands Improvement Act
$\mu\text{g}/\text{m}^3$	micrograms per cubic metre

Recital and Appearances

IN THE MATTER OF the *National Energy Board Act* (the "Act") and the Regulations made thereunder; and

IN THE MATTER OF an Application by TransCanada PipeLines Limited for a Certificate of Public Convenience and Necessity under Part III of the Act; and

IN THE MATTER OF National Energy Board Hearing Order GH-2-94;

HEARD at Calgary, Alberta on 5 and 7 July 1994.

BEFORE:

C. Bélanger	Presiding Member
R. Priddle	Member
R. Illing	Member

APPEARANCES:

M.S. Forster	TransCanada PipeLines Limited
W.E. Downe	
P.L. Fournier	Canadian Association of Petroleum Producers
L.E. Smith	Brooklyn Navy Yard Cogeneration Partners, L.P.; Vermont Gas Systems, Inc.
R.B. Brander	Centra Gas Ontario Inc.
P. McIntyre	Chancellor Energy Resources Inc.
H. Soudek	Consumers' Gas Company Ltd. (The)
F.X. Berkemeier	Consumers Power Company
D.W. Rowbotham	Encogen Four Partners, L.P.
C. MacFarlan	Foothills Pipe Lines Ltd.
J.T. Brett	Kingston CoGen Limited Partnership
L.G. Keough	Northland Power
R. Hunter	Pan-Alberta Gas Ltd.

P.R. Gagné	PanCanadian Petroleum Ltd.
R.B. Hillary	Paramount Resources Ltd.
M.A.K. Muir	ProGas Limited
D.G. Davies	Renaissance Energy Ltd.
A.S. Hollingworth	Société de Cogénération de Québec, Société en Commandite
F. Hébert	Société en Commandite Gaz Métropolitain, inc.
G. Cameron	Union Gas Limited
H. Trainor	Alberta Department of Energy
J. Hanebury	Board Counsel

Overview

(Note: This overview is provided solely for the convenience of the reader and does not constitute part of this Decision or the Reasons, to which readers are referred for detailed text and tables.)

The Application

By application dated 10 March 1994, as amended on 17 May 1994, TransCanada PipeLines Limited ("TransCanada") applied for a certificate, pursuant to Part III of the *National Energy Board Act* ("the Act"), to expand its natural gas pipeline system in Manitoba, Ontario and Québec for the contract year commencing 1 November 1995.

TransCanada sought authorization to construct 55.2 kilometres ("km") of new pipeline loop across its system, to install 70.6 megawatts ("MW") of new compression, and to relocate two portable compressor units totalling 13.6 MW, at an estimated capital cost of \$189.3 million (\$1994). The proposed expansion would allow TransCanada to provide a total of $3\,328.5 \times 10^3$ cubic metres per day (m^3/d) (117.6 million cubic feet per day ("MMcfd")) of new long-haul firm service ("FS"), of which $2\,176.5 \times 10^3 \text{m}^3/\text{d}$ (76.9 MMcfd) would be for domestic service and the remaining $1\,152.0 \times 10^3 \text{m}^3/\text{d}$ (40.7 MMcfd) would be for service to export customers. In addition, the proposed expansion would allow TransCanada to restore the capability that would be lost due to relegating certain compressor units on its system to critical standby status¹.

Highlights of the Board's Decision

The Board is satisfied that the applied-for facilities are required by the present and future public convenience and necessity and is prepared to issue a certificate subject to the approval of the Governor-in-Council. The Board determined that the proposed expansion was economically feasible, given that there was a likelihood that the facilities would be used at a reasonable level over their economic life and that demand charges would be paid. The Board's certificate will include conditions to ensure that only those facilities needed to meet the aggregate firm service requirements will be built, and that construction will occur in an acceptable technical and environmental manner.

Environmental Screening

The Board conducted an environmental screening of the applied-for facilities in compliance with the *Environmental Assessment and Review Process Guidelines Order* ("EARP Guidelines Order"). The Board ensured there was no duplication in requirements under the EARP Guidelines Order and the Board's own regulatory process. The Board determined that the potentially adverse environmental effects, including the social effects directly related to those environmental effects which may be caused by the proposal, would be insignificant or mitigable with known technology.

¹ Standby units are used to quickly replace other operating units within the same station for scheduled or unscheduled maintenance and repair. Typically, a standby unit remains in service until the unit it replaced is refurbished, when it is rotated back to standby status.

Chapter 1

Introduction

1.1 Facilities Application

By application dated 10 March 1994, as amended, TransCanada sought a certificate, pursuant to Part III of the Act, to expand its natural gas pipeline system in Manitoba, Ontario and Québec to meet domestic and export requirements for the contract year commencing 1 November 1995.

The proposed expansion would enable TransCanada to:

- (a) meet projected requirements under existing transportation service contracts after accounting for contract revisions, non-renewals, and the continuation of services starting during the summer of 1995;
- (b) provide a total of $3\,101.9\,10^3\text{m}^3/\text{d}$ (109.6 MMcfd) of new long-haul FS deliveries from Empress, Alberta, of which $2\,176.5\,10^3\text{m}^3/\text{d}$ (76.9 MMcfd) would serve domestic markets and the remaining $925.4\,10^3\text{m}^3/\text{d}$ (32.7 MMcfd) would serve markets in the United States of America ("U.S.");
- (c) provide a total of $226.6\,10^3\text{m}^3/\text{d}$ (8.0 MMcfd) of Storage Transportation Service ("STS") to Philipsburg, Québec; and
- (d) restore the capability that would be lost due to relegating certain compressor units at Stations 62, 105 and 116 to critical standby status.

The proposed facilities consist of 55.2 km of pipeline looping, permanent compressor units totalling an ISO rated power output ("ISO")¹ of 70.6 MW, one aftercooler, the relocation of portable compressor units totalling 13.6 MW (ISO), and compression related items including aero assemblies and standby plants, at an estimated capital cost of \$189.3 million in 1994 dollars. TransCanada estimated that the Eastern Zone toll at 100% load factor in the first full year of service would be 90.6 ¢ per gigajoule assuming a rate of return on equity of 12.25 percent.

The Board held a hearing to examine TransCanada's application on 5 and 7 July 1994, in Calgary, Alberta.

1.2 Environmental Screening

The Board conducted an environmental screening of the applied-for facilities in compliance with the EARP Guidelines Order. The Board ensured there was no duplication in requirements under the EARP Guidelines Order and the Board's own regulatory process.

¹ The rated power at ISO conditions represent unit performances at 15°C, 101.325 kPa and sea level.

The Board has determined that the potentially adverse environmental effects of the proposal, including the social effects directly related to those environmental effects, are insignificant or mitigable with known technology. This conclusion represents a finding pursuant to paragraph 12(c) of the EARP Guidelines Order.

Chapter 2

Overall Gas Supply/Demand

2.1 Overall Gas Supply

TransCanada relied upon two studies prepared by Sproule Associates Limited ("Sproule") entitled "The Future Natural Gas Supply Capability for the Province of Alberta 1993 - 2015" and "Province of Alberta Enhancement to the TransCanada Supply Capability Model and the Pool Size Distribution Study", both dated April 1994, as evidence of overall gas supply. These studies are, in part, updates to studies submitted in previous facilities proceedings (GH-1-89, GH-5-89, GH-4-91, GH-4-92 and GH-2-93), but also contain a substantial amount of new material, especially in the area of pool size distribution.

The enhancements to the above studies, to which TransCanada alluded in the GH-2-93 facilities hearing, include revisions to the find-rate equation and the approach to determine drilling activity. The gas supply capability is based on demand, price, cost, gas available from existing pools and gas expected to be available from reserve additions, which are used to determine drilling activity and returns on investments to the upstream sector. The drilling activity equation used in previous studies has been maintained as a check.

Sproule concludes that Alberta reserves represent approximately 85 percent of the Western Canadian gas supply and could achieve a productive capacity from conventional sources of $145.0 \times 10^9 \text{m}^3$ (5.1 trillion cubic feet ("Tcf")) per year in 2005, after which the reserves decline. This was extrapolated to $174.0 \times 10^9 \text{m}^3$ (6.1 Tcf) for the Western Canada Sedimentary Basin. Sproule also provided some background information on coalbed methane, which it expects will become an economic source of supply within 10 to 15 years.

Views of the Board

The forecasting of supply capability is an inherently uncertain task. However, having regard to the range of results presented through the use of the sensitivity analysis, the Board is satisfied that TransCanada has demonstrated that there will be sufficient overall gas supply to ensure adequate long-term utilization of TransCanada's system, including the proposed facilities.

The Board recognizes the substantial effort that TransCanada and Sproule have put into the enhancements to the Pool Size Distribution Study including the approach to market responsive drilling and would encourage TransCanada and Sproule to continue implementing further improvements.

The Board remains concerned with the drilling activity equation found in the Sproule study, especially with respect to the choice of independent variables and the equation's response to different data sets. As TransCanada has indicated that it will continue to use this equation, the Board trusts that this aspect will be reviewed prior to the next facilities application.

2.2 Long-Term Domestic Markets

TransCanada projected that natural gas demand in Eastern Canada will grow at an average rate of 1.8 percent per year over the forecast period, increasing from 1229 petajoules in 1993 to 1653 petajoules in 2010. TransCanada submitted that given the growing gap between currently contracted capacity on the TransCanada system and projected requirements, additional capacity on its system and/or additional imports will be required. As evidence of its continuing competitiveness in serving domestic markets, TransCanada noted that customers continue to seek service from the company over the long-term.

Views of the Board

The Board considers the assumptions that underlie TransCanada's projections of natural gas consumption for Eastern Canada to be plausible. Therefore, for the purpose of this application, the Board finds TransCanada's overall outlook for natural gas demand in Eastern Canada to be reasonable.

2.3 Long-Term Export Markets

In order to demonstrate the long-term nature of natural gas demand in both the U.S. Northeast and Midwest markets, TransCanada presented forecasts by the Gas Research Institute and the WEFA Group, among others. According to these sources, annual growth rates for natural gas demand over the forecast period 1995 to 2010 will range between 0.2 and 1.1 percent in the U.S. Midwest, and between 0.8 and 1.4 percent in the U.S. Northeast. TransCanada cited the willingness of its customers to enter into long-term service contracts with TransCanada as an indication that its transportation services are expected to remain competitive for the export markets it serves.

Views of the Board

The Board considers the evidence presented regarding the long-term outlook for natural gas demand in the U.S. Northeast and Midwest to be reasonable. The Board is also of the view that it is reasonable to conclude that natural gas shippers will rely on TransCanada to meet some of the projected increase in demand.

Chapter 3

Specific Transportation Services

Requirements

The capacity to be provided by the applied-for facilities is primarily to allow TransCanada to satisfy the projected requirements under existing transportation service contracts and the new firm domestic and export service requirements.

3.1 TransCanada's Requirements Forecast

TransCanada provided forecasted contractual requirements for the contract years commencing 1 November 1993, 1994, 1995 and 1996 (refer to Table 3-1).

TransCanada indicated that its forecast of maximum daily deliveries is based upon its existing transportation service contracts and upon executed or anticipated precedent agreements with prospective shippers. TransCanada's forecast of annual deliveries is based upon the results of a survey questionnaire and upon discussions with current and prospective shippers. TransCanada's export forecast assumes that existing export licences and contracts will be extended beyond their current expiry dates.

Compared to the requirements forecast filed by TransCanada in its 28 May 1993 revision to its 1994/95 Facilities Application, TransCanada's 1994/95 base case¹ winter maximum aggregate daily requirements were increased by 1 993.0 10³m³/d (70.4 MMcfd), reflecting, in part, the non-renewal of contracted capacity, requested contract revisions or restructuring and the addition of new projects. For example, TransCanada has included in the revised 1994/95 requirements new export services at Emerson, Manitoba of 623.0 10³m³/d (22.0 MMcfd) for ProGas Limited and 453.0 10³m³/d (16.0 MMcfd) for Amoco Canada Petroleum Company Limited ("Amoco") (subsequently assigned to Northern States Power). Both services are to commence 1 November 1994.

In addition, annual deliveries in the 1994/95 contract year reflect 78.9 10⁶m³ (2.8 billion cubic feet ("Bcf")) of demand associated with the payback of capacity borrowed by TransCanada in the summer of 1992 from Western Gas Marketing Limited ("WGML")². TransCanada indicated that all borrowed capacity will be paid back by the end of the 1994/95 contract year.

In its 18 February 1994 Release Application, TransCanada advised the Board that it had informed WGML that it would not reinstate renewal rights for 4 853.0 10³m³/d (171.0 MMcfd) of contracted capacity from Empress, Alberta to Emerson, Manitoba as a result of the termination of a sales contract by Natural Gas Pipeline Company effective 31 October 1995. TransCanada indicated that it has

¹ Base case requirements include transportation services which are currently available and those for which the facilities necessary to enable the service to commence have been certified.

² For further detail, refer to the Board's RH-2-92 Reasons for Decision, TransCanada PipeLines Limited, February 1993, Chapter 10, "The Loan of Transportation Capacity".

accordingly agreed to extend the WGML transportation contract to 31 October 1995, at which time the transportation contract will be terminated.

As Many Islands Natural Gas (Canada) Ltd. ("MING") has not been able to confirm a need for firm capacity to Emerson, Manitoba for the 1994/95 contract year by the 1 March 1994 date set by TransCanada, TransCanada indicated that it has extended the 453.0 10³m³/d (16.0 MMcfd) transportation contract to 31 October 1995, at which time the transportation contract will be terminated.

TransCanada took the aforementioned 5 306.0 10³m³/d (187.0 MMcfd) in contract terminations into account in calculating the aggregate requirements underpinning this application. TransCanada noted that negotiations regarding use by WGML and MING of this capacity are ongoing. Should definitive evidence of long-term market requirements replacing all or part of the 5 306.0 10³m³/d (187.0 MMcfd) be presented to TransCanada in a timely fashion, it will undertake the steps necessary to permit the new contracts to commence 1 November 1995.

TransCanada submitted that its base case requirements forecast is reasonable, that it will continue to update its forecast based upon the most current information available, and that it will make any adjustments at the time the "Release for Construction" application is filed with the Board.

Table 3-1
TransCanada's Forecast of Annual Deliveries^{1, 2}

<u>Contract Year</u>	<u>Domestic</u>		<u>Export</u>		<u>Total</u>	
	(10 ⁹ m ³)	(Bcf)	(10 ⁹ m ³)	(Bcf)	(10 ⁹ m ³)	(Bcf)
1993/94	32.6	1 151	29.2	1 031	61.8	2 182
1994/95	33.1	1 169	33.0	1 166	66.1	2 335
1995/96	34.4	1 216	31.1	1 100	65.5	2 316
1996/97	34.8	1 229	31.4	1 108	66.2	2 337

¹ Source: TransCanada's 1995/96 Facilities Application, Tab Requirements, Subtab 1, revised 7 July 1994.

² Includes FST, STS and WGML's Payback Volumes, but excludes all fuel requirements, losses and other uses.

Table 3-2
New Firm Services Associated with
TransCanada's 1995/96 Facilities Application¹

	Term (Years)	Volume (10³m³/d)	Volume (MMcfd)
Domestic			
Northland Power Iroquois Falls Partnership	20	548.5	19.4
The Consumers' Gas Company Ltd.	10	283.0	10.0
Société de Cogénération de Québec, Société en Commandite	15	765.0	27.0
Kingston CoGen Limited Partnership	20	580.0	20.5
		<hr/>	<hr/>
Total Domestic		2 176.5	76.9
Export			
Brooklyn Navy Yard Cogeneration Partners, L.P.	20	715.4	25.3
Renaissance Energy Ltd.	10	210.0	7.4
Société en Commandite Gaz Métropolitain, inc. (STS)	11	226.6	8.0
		<hr/>	<hr/>
Total Export		1 152.0	40.7
Total Domestic and Export		3 328.5	117.6

¹ Source: Precedent Agreements between TransCanada and Shippers.

3.2 New Domestic Services

The applied-for facilities are supported by four domestic shippers who have requested incremental service totalling 2 176.5 $10^3\text{m}^3/\text{d}$ (76.9 MMcfd), or 65 percent of the total new firm service requirements (refer to Table 3-2).

3.2.1 Northland Power Iroquois Falls Partnership

Northland Power Iroquois Falls Partnership ("Northland Power") has executed a twenty-year Precedent Agreement with TransCanada, dated 25 May 1994, for the delivery of 548.5 $10^3\text{m}^3/\text{d}$ (19.4 MMcfd) of gas, commencing 1 September 1996. The gas will be shipped from Empress, Alberta to the point of interconnection between the pipeline facilities of TransCanada and Centra Gas Ontario Inc. ("Centra Gas").

The gas will be used to fuel a 75.5 MW combined-cycle cogeneration plant to be constructed by Northland Power near Iroquois Falls, Ontario, on a site adjacent to the Abitibi-Price Pulp and Paper Mill ("Abitibi-Price"). The plant will produce steam which will be sold to Abitibi-Price in accordance with a Steam Sales Agreement dated 27 October 1992. The thermal energy purchase will replace the energy currently produced by existing steam boiler equipment. The electricity produced by the facility will be sold to Ontario Hydro in accordance with a twenty-year Power Purchase Agreement dated 11 February 1994, which received Lieutenant Governor-in-Council approval on 2 June 1994.

Upstream transportation on NOVA Corporation of Alberta ("NOVA") will be contracted for by the five producers supplying gas to the Northland Power facility. Downstream transportation will be provided by Centra Gas.

Gas supply arrangements have been made with three primary suppliers: PanCanadian Petroleum Limited ("PanCanadian"), Shell Canada and Canadian Natural Resources Ltd. Secondary suppliers to the project are Luscar Ltd. and Crestar Energy Limited ("Crestar"). TransCanada indicated that the total primary supply volume of 645.0 $10^3\text{m}^3/\text{d}$ (22.8 MMcfd) is in excess of the project requirements of 548.5 $10^3\text{m}^3/\text{d}$ (19.4 MMcfd) at 100 percent load factor.

3.2.2 The Consumers' Gas Company Ltd.

The Consumers' Gas Company Ltd. ("Consumers' Gas") has executed a ten-year Precedent Agreement with TransCanada, dated 21 March 1994, for the delivery of 283.0 $10^3\text{m}^3/\text{d}$ (10.0 MMcfd) of gas from Alberta and Saskatchewan to Consumers' Gas' franchise area. Consumers' Gas has requested the additional service capacity, commencing 1 November 1995, to serve normal market growth in its franchise area.

Upstream transportation on NOVA and TransGas Limited will take place under existing transportation arrangements held by the gas suppliers.

Consumers' Gas' supply portfolio consists of short, medium and long-term gas contracts mainly with Western Canadian suppliers. As of 1 May 1994, Consumers' Gas had 6 634.0 $10^3\text{m}^3/\text{d}$ (234.2 MMcfd) of daily volume under long-term contracts with nine Western Canadian suppliers. Consumers' Gas has another 6 288.0 $10^3\text{m}^3/\text{d}$ (222.0 MMcfd) under contract with WGML. Gas supplies in support of the applied-for FS capacity will be drawn initially from the daily volume

flexibility within Consumers' Gas' current gas supply portfolio. Additional supply will be contracted, as required, through Consumers' Gas' competitive bidding process.

3.2.3 Société de Cogénération de Québec, Société en Commandite

Société de Cogénération de Québec, Société en Commandite ("Québec Cogen"), has executed a fifteen-year Precedent Agreement with TransCanada, dated 31 March 1994, for the delivery of $765.0 \text{ } 10^3 \text{ m}^3/\text{d}$ (27.0 MMcfd) from Empress, Alberta to the point of interconnection between TransCanada / Trans Québec and Maritimes Inc. and Société en Commandite Gaz Métropolitain, inc. ("GMI"), commencing 1 November 1995.

The gas will be used to fuel a 119.5 MW combined-cycle cogeneration plant to be constructed adjacent to the Daishowa Inc. ("Daishowa") paper mill in Québec City, Québec. In addition, the facility will purchase and use steam produced by the incinerator of the Communauté urbaine de Québec. The electricity produced by the facility will be sold to Hydro-Québec in accordance with an executed twenty-five year Power Purchase Contract dated 25 May 1993. The thermal energy from the cogeneration plant will be sold to Daishowa in accordance with an executed Energy Services Agreement dated 16 July 1993.

Québec Cogen noted that in response to Hydro-Québec's attempts to terminate the Power Purchase Contract, Québec Cogen has taken the position that it has a valid, enforceable contract and that discussions with Hydro-Québec are ongoing to resolve the matter and to allow the facility to proceed as planned.

Upstream transportation arrangements on NOVA are being negotiated by the producers supplying gas to the project. Downstream transportation arrangements are being negotiated by Québec Cogen with GMI for the delivery of the gas to the cogeneration facility.

Québec Cogen has executed gas supply arrangements with Dekalb Energy Canada Ltd., Rio Alto Exploration Ltd. and Ocelot Energy Inc. for half the project volumes. Paramount Resources Ltd. ("Paramount") will supply the remaining volumes. The first three suppliers submitted corporate supply and demand balances. By way of an undertaking, Paramount submitted a summary report comparing its own, a consultant's and the Alberta Energy Resources Conservation Board's ("ERCB") reserves estimates for the corporation and the project. The ERCB listing showed project reserves of $1 \text{ } 034.0 \text{ } 10^6 \text{ m}^3$ (36.5 Bcf) compared to project requirements of approximately $2 \text{ } 100.0 \text{ } 10^6 \text{ m}^3$ (74.2 Bcf) over 15 years. The two other estimates were higher than the ERCB's; however, no detailed supporting information was provided.

During final argument, Québec Cogen noted that Paramount viewed the estimate of reserves to be higher than the ERCB's. Québec Cogen also argued that Paramount is a significant producer with a long history of dependability and finding success.

3.2.4 Kingston CoGen Limited Partnership

Kingston CoGen Limited Partnership ("Kingston CoGen") has executed a twenty-year Precedent Agreement with TransCanada, dated 5 July 1994, for the delivery of $580.0 \text{ } 10^3 \text{ m}^3/\text{d}$ (20.5 MMcfd) from Empress, Alberta, commencing 1 October 1996, to the point of interconnection between the TransCanada and Centra Gas systems near Kingston, Ontario.

The gas will be used to fuel a 100 MW combined-cycle cogeneration plant which is planned to be constructed at a location adjacent to the manufacturing plant of Celanese Canada Inc. ("Celanese"). The electricity produced by the plant will be sold to Ontario Hydro in accordance with an executed Power Purchase Agreement between Ontario Hydro and Kingston CoGen dated 6 May 1994. The Power Purchase Agreement received Ontario Lieutenant Governor-in-Council approval on 2 June 1994. The thermal energy produced by the plant will be sold to Celanese in accordance with an executed Energy Services Agreement dated 8 April 1994.

Upstream transportation arrangements on NOVA are being negotiated by PanCanadian. Downstream transportation arrangements on Centra Gas are being negotiated by Kingston CoGen.

Kingston CoGen has made gas supply arrangements with PanCanadian through an executed Agreement dated 30 June 1994.

3.3 New Export Services

The applied-for facilities are also supported by three export shippers who have requested service totalling $1\,152.0\,10^3\text{m}^3/\text{d}$ (40.7 MMcfd), or 35 percent of the total new firm service requirements (refer to Table 3-2), including $925.4\,10^3\text{m}^3/\text{d}$ (32.7 MMcfd) of long-haul firm service and $226.6\,10^3\text{m}^3/\text{d}$ (8.0 MMcfd) of STS service.

3.3.1 Brooklyn Navy Yard Cogeneration Partners, L.P.

The Brooklyn Navy Yard Cogeneration Partners, L.P. ("Navy Yard Partners") have executed a twenty-year Precedent Agreement with TransCanada dated 16 May 1994, as amended, for the delivery of $715.4\,10^3\text{m}^3/\text{d}$ (25.3 MMcfd) of gas from Empress, Alberta to the export point at Iroquois, Ontario, commencing 1 October 1996.

The gas will be used to supply Navy Yard Partners' gas-fuelled cogeneration facility which is planned to be constructed in Brooklyn, New York. This facility will produce approximately 286 MW of electric power. Consolidated Edison Company of New York, Inc. ("Con Edison") will accept the power under three Power Purchase Agreements all dated 22 October 1992. Con Edison, Domino Sugar, the Brooklyn Navy Yard Development Corporation and the Red Hook Water Pollution Control Plant will receive electrical and/or thermal energy from the project.

For upstream transportation, Crestar and PanCanadian have filed requests for transportation service with NOVA for delivery of the gas to Empress.

With respect to downstream transportation, Navy Yard Partners has executed a twenty-year firm service Precedent Agreement with Iroquois Gas Transmission System, L.P. ("Iroquois"), dated 28 July 1993, for the transportation of gas from Iroquois, Ontario to the Iroquois terminus near South Commack, New York, commencing 1 November 1995. Navy Yard Partners are also finalizing arrangements with Brooklyn Union Gas Company for transportation service from South Commack to the cogeneration facility via the systems of Long Island Lighting Company and Brooklyn Union Gas Company.

Navy Yard Partners' licence application to export $750.0\,10^3\text{m}^3/\text{d}$ (26.5 MMcfd) of gas at Iroquois, Ontario was approved by the Board in GH-5-93. That decision was subsequently subject to review proceedings when the Board reconsidered the scope of the environmental assessments undertaken in relation to the licence applications considered in that proceeding. In the case of Navy Yard Partners,

the scope of the original environmental assessment was confirmed and the approval of the export licence was therefore upheld.

Navy Yard Partners made gas supply arrangements with Crestar and PanCanadian. Gas supply was determined to be adequate during the recent GH-5-93 proceedings.

3.3.2 Renaissance Energy Ltd.

Renaissance Energy Ltd. ("Renaissance") and TransCanada have executed a ten-year Precedent Agreement dated 2 March 1994, as amended, for the delivery of 210.0 $10^3\text{m}^3/\text{d}$ (7.4 MMcfd) of gas from Empress, Alberta to the Niagara Falls, Ontario export point commencing 1 November 1995. Renaissance will provide supplementary system gas to two New England utilities, Bay State Gas Company ("Bay State") and an affiliated company Northern Utilities, Inc. ("Northern Utilities"), to meet anticipated market growth in Massachusetts, New Hampshire and Maine.

For upstream transportation, Renaissance has filed requests for transportation service with NOVA for delivery of the gas to Empress, Alberta.

With respect to downstream transportation, Bay State and Northern Utilities have currently contracted capacity on National Fuel Gas Supply Corporation, Tennessee Gas Pipeline Company and Granite State Gas Transmission, Inc. for delivery of the gas from the Canada-U.S. border to the Bay State and Northern Utilities service areas.

Renaissance's licence application to export 210.0 $10^3\text{m}^3/\text{d}$ (7.4 MMcfd) of gas at Niagara Falls, Ontario over a ten-year period was filed with the Board on 6 April 1994. Bay State and Northern Utilities have not yet applied for DOE/FE import authorization.

Gas supply contracts for the Bay State project requirements have been executed with Renaissance. The adequacy of Renaissance's gas supply is being examined in the Board's current GH-3-94 proceeding.

3.3.3 Société en Commandite Gaz Métropolitain, inc.

GMI and TransCanada will execute an eleven-year Precedent Agreement for 226.6 $10^3\text{m}^3/\text{d}$ (8.0 MMcfd) of STS service, commencing 1 November 1995. Gas will be transported by TransCanada utilizing the existing WGML FS contract of 905.6 $10^3\text{m}^3/\text{d}$ (32.0 MMcfd) and the new STS service from Empress, Alberta to Parkway or Dawn, Ontario in the summer months for delivery to storage. Gas will be delivered for export to Vermont Gas Systems Inc. ("VGS") at Philipsburg, Québec in the winter months. Facilities are only required on TransCanada's Philipsburg lateral to provide the increased deliveries to VGS.

WGML, the gas supplier, holds the necessary upstream capacity on NOVA to deliver the gas to Empress, Alberta. GMI currently has in place the necessary capacity arrangements with Union to transport the gas between the storage site in Michigan and TransCanada's facilities.

With respect to downstream transportation, the gas will be transported on transmission and distribution facilities owned by VGS. A minor facilities addition to the VGS system will be required, which will be applied for in the near future.

Applications to the Board and to the DOE/FE to increase the authorized daily volumes in the existing NEB Export Licence (GL-172) and DOE/FE import authorization (DOE/FE 550) are pending. No changes are needed to the annual and term volumes of these authorizations.

Gas supply arrangements have been made through a Gas Purchase Contract dated 26 June 1991 between WGML and VGS. The supply arrangements were found to be adequate in the GH-3-91 proceedings for the approved gas export volume of $905.6 \text{ } 10^3 \text{ m}^3/\text{d}$ (32.0 MMcfd). The supply for both the incremental winter peak volume of $226.6 \text{ } 10^3 \text{ m}^3/\text{d}$ (8.0 MMcfd) and the applied-for facilities was also found to be adequate based upon the GH-3-91 proceedings and the long-term firm storage contract dated 23 July 1993 between St. Clair Pipelines Ltd. and VGS.

Views of the Board

The Board finds TransCanada's requirements forecast to be acceptable for the purpose of assessing TransCanada's facilities requirements for the 1995/96 contract year. As well, the Board is satisfied that the new domestic and export transportation services, scheduled to commence in the 1995/96 contract year, are sufficiently advanced with respect to gas supply arrangements, upstream and downstream transportation arrangements, gas sales arrangements, and securing the necessary Canadian and U.S. regulatory approvals to support TransCanada's facilities design. The Board is of the opinion that there is a reasonable expectation that all outstanding contractual and regulatory matters can be finalized in a timely manner to allow those services to commence as currently anticipated.

The Board is satisfied with TransCanada's approach to independent verification of the information furnished by prospective shippers in support of their service requests. Nevertheless, the Board continues to be of the view that, in order to ensure that the applied-for facilities will be used and useful over the long-term, the commencement of construction of the approved facilities should be conditioned upon TransCanada demonstrating to the Board's satisfaction that, in respect of the new firm export services, all necessary U.S. and Canadian federal regulatory approvals have been received. Similarly, the Board is of the view that TransCanada should be required to demonstrate that all necessary U.S. and Canadian regulatory approvals have been granted for any required downstream facilities or transportation services.

The Board continues to be of the opinion that changes to TransCanada's base case requirements could affect the need for the applied-for facilities and, accordingly, the Board expects TransCanada to continue to monitor its base case requirements and, in the event of a change which impacts upon aggregate requirements, to revise its facilities requirements accordingly. The Board is of the view that it would be appropriate to so condition any certificate that is to be issued.

The Board is satisfied that the aforementioned certificate conditions would ensure the construction of only those facilities which are required to meet the aggregate firm requirements.

The Board is satisfied that TransCanada has provided the required information on project specific gas supply for shippers requesting new firm transportation service.

Consistent with the views expressed in the Board's GHW-3-89 Reasons for Decision and for the purposes of this application, the Board does not require gas supply information in support of Consumers' Gas' service request as it results from normal market growth within its franchise area.

The Board is of the view that the type of information submitted by Paramount raises questions as to the adequacy of gas supply available to the Québec Cogen project over the contract period.

Taking into account the specific qualifications and conditions noted above, the Board is satisfied with the gas supply arrangements outlined for domestic and export shippers.

Decision

TransCanada will be responsible for any unrecovered demand charges which might occur during the term of the contract with Québec Cogen if these charges are found to be related to inadequate gas supply. Specifically, unrecovered demand charges for the Québec Cogen project would not be eligible for treatment in a deferral account.

3.4 Risk and Financial Assurances

3.4.1 Risk

The risks associated with capacity expansion, including market and regulatory risks in other jurisdictions, are among the criteria used by TransCanada and the Board to determine the likelihood that the applied-for facilities will be used at a reasonable level over their economic life and that the associated demand charges will be paid.

TransCanada and the individual expansion shippers argued that the new services underpinning the applied-for facilities represent viable, long-term markets for which the contractual arrangements and regulatory approvals have been finalized or are expected to be finalized shortly. TransCanada argued that the new sales fall either under the category of normal market growth in a Canadian local distribution company's ("LDC") franchise area (i.e., Consumers' Gas) or market growth in Canadian power production and cogeneration (i.e., Northland Power, Québec Cogen and Kingston CoGen). The two Ontario power projects, Northland Power and Kingston CoGen, have firm commitments from Ontario Hydro to purchase the electric power. The associated Power Purchase Agreements have received Lieutenant Governor-in-Council approval. In the case of the Québec Cogen project, although Hydro-Québec has attempted to terminate the Power Purchase Contract, Québec Cogen has taken the position that it has a valid, enforceable contract with Hydro-Québec.

With respect to the export market, the new services are required to serve market growth associated with an increased requirement for electric power generation through cogeneration and to enable three U.S. LDCs to diversify their gas supply portfolios and to serve their expanding franchise areas.

3.4.2 Financial Assurances

TransCanada has executed either a Performance Agreement on Financial Assurances or a Letter Agreement with some, but not all, of the expansion shippers underpinning the applied-for facilities. In

the case of the domestic shippers, financial assurance agreements were executed with Northland Power, Québec Cogen and Kingston CoGen, whereas a financial assurance agreement was not required in the case of Consumers' Gas. In the case of the export shippers, whereas a Financial Assurance Agreement was executed with Navy Yard Partners, such an agreement was not required in the case of GMi. Renaissance executed a Letter Agreement.

Through the Performance Agreement on Financial Assurances, the shippers have agreed to provide TransCanada with an irrevocable rolling standby letter of credit equivalent to twelve months of FS demand charges.

Through the Letter Agreement, TransCanada waives any further financial assurance requirements based upon its assessment of a shipper's current financial status. However, should TransCanada become dissatisfied with a shipper's creditworthiness, it reserves the right, during the term of the FS contract, to perform further financial reviews of the shipper and to request additional financial assurances.

Views of the Board

The Board continues to be of the view that TransCanada is in the best position to assess the risks associated with the individual services underpinning the applied-for facilities expansion and, in particular, to assess the risks associated with the recovery of demand charges. The Board likewise continues to be of the view that TransCanada should retain the right to determine whether some type of financial assurance should be obtained from the expansion shippers, and if this is found to be appropriate, TransCanada is entitled to establish the type of financial assurance package that should be negotiated.

The Board is of the view that the question of prudence with respect to TransCanada's decision on the level of financial assurances would be reviewed in the event a shipper defaulted on its demand charge obligations, and TransCanada applied to the Board for the recovery of those demand charges from the remaining system users.

Chapter 4

Facilities

4.1 Specific Facilities

TransCanada's applied-for expansion consists of 55.2 km of pipeline looping, the installation of permanent compressor units totalling 70.6 MW (ISO), the relocation of portable compressor units totalling 13.6 MW (ISO), manifolding at Stations 41 and 52, one aftercooler, standby plants, aero assemblies and spares.

Details and costs of these facilities are provided in Figure 4-1 and Table 4-1. The total capital cost of the facilities is estimated at \$189.3 million in 1994 dollars. TransCanada submitted that the proposed facilities are required by the present and future public convenience and necessity.

The facilities include a new 28.3 MW unit at Station 105 and a 10.4 MW unit relocation to Station 116 to restore the capability that would be lost due to relegating the "A" plants at these stations to critical standby status and to TransCanada's Spey replacement program. TransCanada indicated that the Spey units at Stations 105 and 116 would not be supported by the manufacturer after 1998 due to chronic operational and design problems. Following a review of its options, TransCanada determined that installing a new 28.3 MW unit at Station 105 and relocating a 10.4 MW unit from Station 119 to Station 116 would meet its current compression requirements while allowing TransCanada to relegate the Spey units and the reciprocating units to critical standby status. This would eliminate the need for major overhauls of the Spey units as well as the potential need to refurbish the reciprocating units with low NO_x combustion systems. Accordingly, TransCanada requested that the release of these facilities for construction should not be predicated on any of the usual capacity release requirements imposed on the balance of the facilities.

Views of the Board

The Board is of the view that the system requirements justify the installation of the proposed facilities. The Board notes that there is always the possibility that some of the forecasted requirements may not materialize as expected. Therefore, TransCanada must demonstrate to the Board's satisfaction that the facilities for which release for construction is sought are required to accommodate the aggregate requirements of the TransCanada system. The certificate will be conditioned accordingly.

The Board is also of the view that it is appropriate that the release for construction of the 28.3 MW unit at Station 105 and the relocation of the 10.4 MW unit from Station 119 to Station 116 not be predicated on any capacity increases, and that these facilities be approved in a separate order.

4.2 Central Section versus Great Lakes Gas Transmission System Expansion

TransCanada proposes to transport 708.0 $10^3\text{m}^3/\text{d}$ (25.0 MMcfd) or 28 percent of the total new firm service deliveries through the Great Lakes Gas Transmission Limited Partnership ("Great Lakes") system using capacity it acquired through an open bidding process, with the remainder to be transported through its Central Section. TransCanada considered and rejected the alternative of transporting all the incremental volumes for the 1995/96 contract year through the Great Lakes system.

TransCanada performed a split-flow analysis using its OPTO computer program comparing the two expansion alternatives and submitted the results of this analysis. These results indicated that it was more cost-effective to expand on the Central Section in the 1995/96 contract year based on the annual owning and operating costs over both ten and 28 years. In addition, TransCanada also performed a long term split-flow analysis which showed that, based on future increases in transportation requirements, expansion on both the Central Section and the Great Lakes system would result in the lesser cost alternative. TransCanada submitted that an expansion on the Central Section for the 1995/96 contract year was therefore the most favourable expansion option in the short term, and that it does not preclude expansion through the Great Lakes system at a future date.

Although Union Gas Limited ("Union") indicated that it did not oppose the application, it expressed concern during the proceedings about TransCanada's method of evaluating the expansion alternatives. In particular, Union questioned TransCanada's assertion that regulatory timing constraints were one factor which did not favour an expansion on the Great Lakes system. In addition, Union questioned whether TransCanada had taken into serious consideration all possible advantages of contracting for transportation through the Great Lakes system, such as greater market opportunities, security and diversity of gas supply, gas storage options, and the flexibility of committing to ten-year contracts.

TransCanada argued that it had chosen the most cost-effective design based on the alternatives, and that all of its previous increases in capacity up to the current level of 36.8 $10^6\text{m}^3/\text{d}$ (1.3 Bcf/d) on the Great Lakes system also had been based on economics.

Views of the Board

The Board notes that no party opposed the proposed expansion on the Central Section for the 1995/96 contract year, and is of the view that the proposed facilities represent an appropriate design for an expansion of the TransCanada system at this time. The Board also notes the apparent strategic advantages advanced by Union of capacity expansions on the Great Lakes system as well as its concerns respecting TransCanada's justification for continuing its expansion on the Central Section. The Board is of the view that TransCanada has an obligation to provide reliable service at competitive tolls. As a result, its system expansions must be undertaken using the most cost-effective design and TransCanada must ensure that its system planning and contracting practices do not preclude expansion on the Great Lakes system if the economics of future expansions favour that alternative in whole or in part.

4.3 Capability Factors

Trans Canada filed with the Board a report dated 17 May 1994 entitled "Update to TransCanada PipeLines System Capability Estimates" which outlined the effects of factors that influence the seasonal capability of its system. This report was filed as part of TransCanada's annual reporting of its system reliability and capability estimates.

This report provides a background to TransCanada's system capability estimates and addresses the effects of facility outages and temperature variations on these estimates. TransCanada submitted that an overall capability factor of 95% for both winter and summer seasons remains appropriate, reflecting the fact that it continues to carry out scheduled maintenance in both the winter and summer seasons.

Views of the Board

The Board is satisfied with TransCanada's method for determining its capability factor and finds that a capability factor of 95 percent for both summer and winter season designs is appropriate.

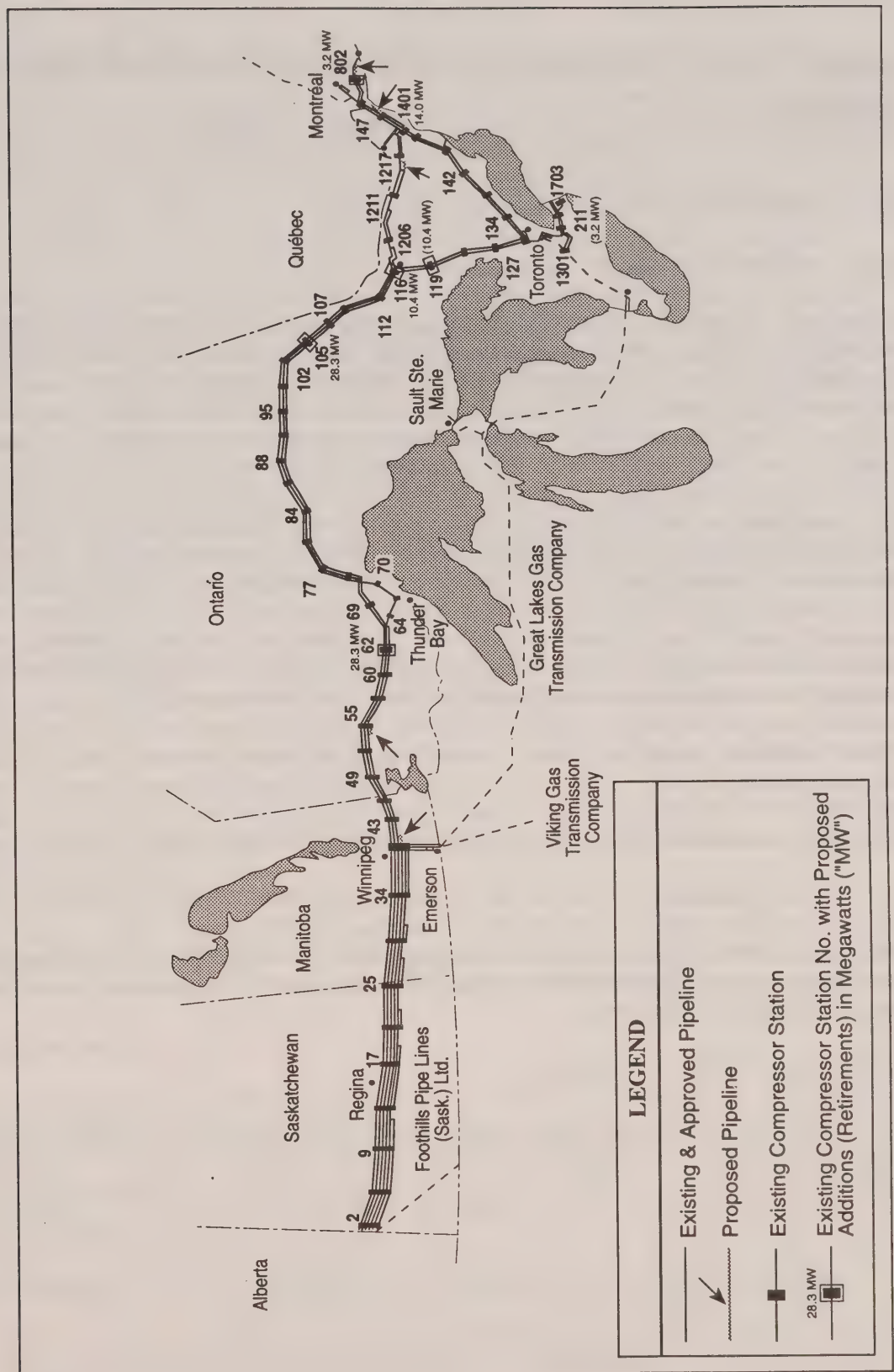
Table 4-1
Description and Estimated Cost of the Applied-for Facilities

1995 Construction

Line	Loop Description	Length (km)	Direct Cost (1994 base) (\$000)
Central Section			
100-4	MLV 41 to MLV 41 + 12.0 km	12.0	11 951
100-4	MLV 51 to MLV 52	15.3	23 057
North Bay Shortcut			
1200-2	MLV 1216 to MLV 1216 + 10.3 km	10.3	15 902
Montreal Line			
100-3	MLV 147 + 27.2 km to MLV 147A	6.3	7 762
Philipsburg Extension			
800-2	MLV 804 to MLV 805	<u>11.3</u>	<u>9 672</u>
Total Looping		55.2	68 344

Compressor Plant Additions and Piping Modifications	Power	Direct Cost (1994 base) (\$000)
Station 62	28.3 MW (ISO)	26 770
Station 105	28.3 MW (ISO)	26 570
Unit Relocation from Station 119 to 116	10.4 MW (ISO), portable	4 342
Manifolding at Station 41		964
Manifolding at Station 52		1 022
Station 1401	14.0 MW (ISO), with aftercooler	21 478
Unit Relocation from Station 211 to 802	3.2 MW, portable	8 355
4 Aero Assemblies		1 650
2 Spare Aero Assemblies		1 110
Standby Plants and Spares		<u>13 000</u>
Total Compression		105 261
Total Direct Costs		173 605
Associated Indirect Costs		15 650
Total Capital Costs		189 255

Figure 4-1
TransCanada PipeLines Limited
Location of Applied-for Facilities



Chapter 5

Land Use, Environmental and Socio-Economic Matters

5.1 Assessment and Notification Process

5.1.1 Assessment Process

TransCanada submitted environmental and socio-economic assessment reports ("the assessments") under covering letters dated 5 and 18 April and 1, 3 and 29 June 1994 in support of its application. TransCanada adopted the recommendations contained in those assessments to prevent or mitigate any adverse environmental effects resulting from the construction and operation of the applied-for facilities. TransCanada also undertook to adhere to the policy statements, mitigative measures and procedures provided in its Pipeline Construction Specifications (April 1993) and in its Environmental Protection Practices Handbook (August 1991).

The assessments included a description of the environmental setting, an assessment of the probable adverse environmental effects of the proposal, and recommendations to prevent or mitigate any adverse environmental effects resulting from the applied-for facilities. An Environmental Issues List ("EIL"), which included the recommended practices and procedures to prevent or mitigate specific adverse environmental effects, was provided for each of the proposed pipeline loops. In general, the assessments provided information on land use, soils, agricultural capability/productivity, vegetation, fisheries, wildlife, water crossings, forestry, heritage resources, recreation, environmentally sensitive areas, noise levels and air quality.

The environmental and directly-related social effects of the project were considered concurrently under two separate processes:

- (i) an examination of the project pursuant to the Board's mandate under Part III of the Act; and
- (ii) an environmental screening of the application pursuant to the EARP Guidelines Order.

The environmental screening was conducted concurrently with the GH-2-94 proceeding pursuant to the Board's Directions on Procedure dated 4 May 1994. The Board's environmental review pursuant to Part III of the Act is detailed in this chapter.

5.1.2 Early Public Notification

In accordance with the Board's Memorandum of Guidance Concerning Early Public Notification of Proposed Applications ("EPN"), TransCanada initiated its notification program in respect of the 1995/96 facilities application on 22 November 1993. Through this program, TransCanada solicited and encouraged public input on environmental and socio-economic effects, and is continuing to respond to all public queries related to the proposed application. The information program included notifications placed in local newspapers, and correspondence with landowners, municipalities, provincial and federal government agencies and departments, provincial and federal elected officials, and various public interest groups. A total of 60 notifications were placed in newspapers and 1,010 individuals, organizations, and government agencies were contacted through written correspondence giving details of the proposed projects and requesting input. As a result of the initial

notification program and subsequent consultations, TransCanada received and responded to 88 inquiries by July 1994.

By letter dated 17 May 1994, TransCanada revised its original application of 10 March 1994 to include an additional 27.3 km of loop (12.0 km from MLV 41 to MLV 41 + 12.0 km, and 15.3 km of loop from MLV 51 to MLV 52) and a new 28.3 MW compressor unit at Station 62. TransCanada indicated that its original EPN program encompassed a number of potential facilities over and above those applied for in TransCanada's original application. Communities in the project areas (Station 62 and MLV 41 to MLV 41 + 12.0 km) were originally notified, but then advised that these projects had been removed from the application. To notify these communities that a revised application once again included facilities in their area, TransCanada's right-of-way agents hand delivered letters to explain that the projects for their area had been reinstated. As well, TransCanada's EPN program with respect to Station 62 included notices in three newspapers (the Dryden Observer, the Thunder Bay Chronicle and the Atikokan Progress). Concerning the Steinbach Loop (MLV 41 to MLV 41 + 12.0 km), TransCanada published notices in six newspapers, including the Winnipeg Free Press. The Feist Lake Loop (MLV 51 to MLV 52) was not included in TransCanada's original EPN program. Subsequently, TransCanada placed newspaper ads and distributed letters outlining its proposed expansion plans to communities along the Feist Lake Loop.

The Board directed TransCanada to publish a Notice of Public Hearing in newspapers in Alberta, Ontario and Québec as set out in Appendix IV of the Board's Directions on Procedure. Subsequent to TransCanada's amended application, the Board further directed TransCanada to publish a Notice of Public Hearing including newspapers in Manitoba and Ontario as set out in Part D, Subpart (ii) of Appendix IV of the Directions on Procedure.

TransCanada provided the Board with summary tables listing the letters received during the notification process. These tables included a statement summarizing the sender's concerns and any action TransCanada undertook in response to the letters and inquiries received. At the request of the Board, TransCanada filed copies of all letters received and responses from TransCanada. The Board also requested an additional summary which provided greater detail regarding the concerns raised by government agencies and public interest groups. This summary included all environmental, land use or socio-economic recommendations or requirements of the above-mentioned agencies or groups, and provided explanations for any recommendations with which TransCanada did not agree.

During the hearing, the Board requested TransCanada to undertake to file an update of its procedures under the EPN, on or before 20 July 1994, for its three new projects, the Steinbach Loop, the Feist Lake Loop, and the additional compression at Station 62. TransCanada agreed to that undertaking.

Views of the Board

The Board is satisfied that TransCanada has notified and discussed the proposed application in a timely and satisfactory fashion with government agencies, public interest groups and affected landowners.

5.2 Land Matters

5.2.1 Requirements of the Act in Respect of the Routing of New Pipeline Facilities

If the Board is satisfied with the proposed general route of a particular loop section of pipeline and issues a certificate in respect to it, the pipeline company must submit to the Board, prior to commencement of

construction, plans, profiles and books of reference ("PPBR") which, among other things, lay out the detailed route of the pipeline segment.

In its application, TransCanada requested that the applied-for facilities be exempted, pursuant to section 58 of the Act, from the provisions of paragraphs 31(c) and 31(d) and section 33 thereof. Such exemptions would relieve TransCanada from the necessity of filing the PPBR for Board approval.

Views of the Board

In deciding whether or not to exempt TransCanada from the provisions of paragraphs 31(c) and 31(d) and section 33 of the Act, the Board is mindful of the rights of adjacent landowners¹ who might be affected by the proposed construction. The Board is of the opinion that due to the proposed location of the facilities (i.e., on existing easements or new easements adjacent thereto), it is unlikely that those landowners would be adversely affected in the long-term by the proposed construction.

The Board is concerned that landowners, whose property TransCanada proposes to acquire, have their rights under the Act protected. However, the Board is also aware of the potential problems for TransCanada if it is unable to obtain all the necessary land rights. Therefore, the Board is prepared to grant the requested exemptions subject to a condition which will permit construction to commence only if TransCanada has obtained all required land rights along any specific loop section or, if the land rights have not yet been obtained, to demonstrate that the landowner rights prescribed in the Act will not be prejudiced. The Board is of the opinion that the wording of the condition proposed by TransCanada protects the rights of landowners while allowing TransCanada flexibility in instituting the right of entry process.

Decision

The Board will grant TransCanada an exemption from the provisions of paragraphs 31(c) and 31(d) and section 33 of the Act subject to the Exemption Order Condition listed in Appendix II of these Reasons.

5.2.2 Route Selection

TransCanada has applied for a total of 55.2 km of line pipe, consisting of five loop sections in the provinces of Manitoba, Ontario and Québec. The location, length and land requirements for each loop section are found in Table 5-1.

Where new facilities could not be located on existing easements due to easement width constraints, TransCanada proposed that they be located adjacent to the existing easements provided that environmental, engineering, construction and safety concerns were met. All proposed loop sections are adjacent to existing easements.

¹ An adjacent landowner is one who owns property which is not along the proposed right-of-way but whose property may be adversely affected by the applied-for facilities.

Views of the Board

The Board agrees with TransCanada's rationale for installing the proposed new looping facilities either within existing easements or adjacent to existing easements with associated temporary workspace. The general routes proposed by TransCanada for those loop sections are acceptable to the Board.

**Table 5-1
TransCanada Proposed 1995/1996 Facilities
Land Requirements**

Loop Description	Loop Section	Length (km)	Permanent Width (m)	Easement Length (km)	Temporary Width (m)	Work Space Length (km)
<u>1995 CONSTRUCTION</u>						
Manitoba 3rd Loop MLV 41 to MLV 41 + 12.0 km	Steinbach Loop	12.0	20.0	12.0	15.0	12.0
Ontario 3rd Loop MLV 51 to MLV 52	Feist Lake Loop	15.3	20.0	15.3	15.0	15.3
North Bay Shortcut 1st Loop MLV 1216 to MLV 1216 + 10.3 km	Richmond Loop	10.3	10.0	10.3	20.0	10.3
Montreal Line 2nd Loop MLV 147 + 27.2 km to MLV 147 A	Montreal Line Loop	6.3	20.0	6.3	5.0	6.3
St. Mathieu Extension 1st Loop MLV 804 to MLV 805	Philipsburg Loop	11.3	15.0	11.3	10.0	11.3
TOTAL		55.2		55.2		55.2

5.2.3 Land Requirements and Notifications

5.2.3.1 Land Requirements

TransCanada provided the rationale for its specific land requirements and for each loop location, including schematics of said requirements.

Fee Simple

Compressor Station 62

TransCanada stated that it would be acquiring additional land at Compressor Station 62. The proposed land purchase is for a noise buffer should there be any future development adjacent to the station. The purchase of one parcel of approximately 3.6 hectares is presently being negotiated with the landowner.

With regard to the land acquisition condition for the exemption order, should the facilities be approved, TransCanada requested that acquisition of land for noise buffer zones not be a condition required to be completed prior to the start of construction. In the present application, TransCanada intends to acquire land or land rights adjacent to Station 62 as a noise buffer zone for any potential future development, however, completion of land acquisition may not be concluded prior to start of construction. The acquisition is not critical to construction or plant start-up, as no construction is proposed to take place on the acquired lands and no dwellings exist in the proposed buffer zone.

Easements

TransCanada provided the Board with schematics of the land requirements for each loop location. TransCanada requires easements ranging in width from 10.0 m to 20.0 m along the five proposed loop sections.

Temporary Work Space

TransCanada requires from 5.0 to 20.0 m of temporary work space for machinery movement, the storage of topsoil and subsoil, and to ensure that no environmental or landowner interests are compromised during construction. This is in accordance with TransCanada's Pipeline Construction Specifications (1993). Temporary work space in excess of 20.0 m may be required in areas where adverse conditions exist. Such areas include wetlands, rolling terrain and major river crossings.

5.2.3.2 Notifications

For the looping program proposed by TransCanada, approximately one hundred landowners as well as numerous individuals having interests in Crown lands are affected. TransCanada indicated that all owners would be contacted, and it undertook to file a line list which would indicate the status of land acquisition. TransCanada further indicated that in compliance with section 87 of the Act, it would serve a notice of proposed acquisition on each party holding an interest in any of the lands that it proposed to acquire.

Views of the Board

Because of the potential effects on affected landowners, the amount of land (fee simple, easements, temporary work space) required for pipeline construction is of concern to the Board. The Board finds that TransCanada's anticipated requirements for fee simple lands, easements and temporary work space are reasonable and justified.

As to TransCanada's request that buffer zone lands be relieved from compliance with a land acquisition condition tied to the commencement of construction, the Board concurs that such a condition would not be appropriate in this situation. The Board notes, however, that service of a section 87 Notice would still be required for the acquisition of buffer zone lands.

5.3 Environmental Matters

5.3.1 Loop Facilities

In its application, TransCanada identified a number of environmental issues which could result from the pipeline construction. Those effects, and mitigative measures proposed by TransCanada, were presented in the assessments. Additional information was also requested and obtained by the Board regarding certain site-specific environmental effects and the mitigative measures proposed.

Soils and Agricultural Land

The proposed facilities cross agricultural lands in a number of areas throughout the provinces of Manitoba, Ontario and Québec. The primary concerns for pipeline construction through agricultural lands include potential conflicts with land use practices, loss of soil capability from soil mixing, soil loss through erosion, loss of soil structure through compaction or rutting, disruption of surface drainage, weed contamination of topsoil, and increased surface stoniness. TransCanada's standard practices as set out in its Pipeline Construction Specifications (1993) and the Environmental Protection Practices Handbook (1991) are designed to minimize conflicts with farming operations and to ensure soil conservation under normal pipeline construction.

TransCanada indicated that marine clay soils along portions of the Richmond Loop, Montreal Line Loop and Philipsburg Loop present potential for slumping and erosion problems during wet soil conditions and from the associated vibration of heavy equipment operation. TransCanada submitted that a backhoe will be employed for trenching in these clays to minimize vibrations. Trenching will not be conducted during extreme wet weather conditions. TransCanada will also employ slope protection techniques during construction and post-construction.

Vegetation

TransCanada indicated that the construction of the proposed loopings could lead to the loss of significant vegetation such as native prairie vegetation and/or rare or endangered vascular plants. TransCanada submitted that impacts to native vegetation throughout the Steinbach Loop, which is located in the Parkland Ecoregion of the Prairie Ecozone, are considered negligible given the highly altered nature of native vegetation due to agricultural development.

TransCanada submitted that the only special plant communities in close proximity to the Richmond Loop route occur within the Highway 17 Class 2 Wetland Complex. TransCanada outlined a number of standard mitigative measures to be followed in an effort to limit potential environmental effects associated with construction within wetlands. Prior to construction, TransCanada will undertake a field reconnaissance and an environmental assessment to determine what specific mitigative practices are necessary for this wetland. TransCanada indicated that it will consult with Ontario Ministry of Natural Resources ("OMNR"), Carleton Place District, prior to construction, to verify that the proposed mitigative measures are satisfactory. At that time, a detailed construction plan will be developed, to the satisfaction of OMNR, to ensure that any residual concerns it may have with construction in the wetland complex are fully addressed. TransCanada undertook to file copies of the detailed construction plan for the wetland complex with the Board.

TransCanada stated that it will also conduct vegetation and wildlife inventories for rare, threatened and endangered species within the wetland complex. TransCanada undertook to file copies of the surveys with the Board prior to construction. TransCanada indicated that should significant plant species exist along the proposed temporary or permanent easement, the temporary easement width would be reduced to the extent

practical to avoid the significant plants which would be identified and protected with fencing during construction. Alternatively, significant plant species could be transplanted if they are located too close to the right-of-way to reasonably facilitate protection. The feasibility of transplanting them to a suitable location would be assessed in consultation with the OMNR.

TransCanada indicated that topsoil will not be stripped within the wetland area and that it will not apply seed and fertilizer. After construction, wetland vegetation will become re-established naturally and/or by hand-planting contiguous stock, where appropriate.

The proposed facilities traverse areas where stands of merchantable timber occur. The Richmond Loop route crosses two Woodlands Improvement Act ("WIA") areas at MLV 1216 + 1.1 km to MLV 1216 + 1.7 km and MLV 1216 + 7.4 km to MLV 1216 + 7.7 km, located in the Township of West Carleton. TransCanada indicated that compensation will be paid for the loss of merchantable timber and trees in WIA plantations in accordance with TransCanada's standard practices.

The Feist Lake Loop is located within the Dryden Crown Forest Management Units managed by OMNR. TransCanada indicated that, to the extent possible, it will salvage merchantable timber in cooperation with the licensee and OMNR in order to delineate any conflicts between proposed cutting operations and pipeline construction activities. In order to mitigate the potential environmental effects of pipeline construction on vegetation, TransCanada indicated that tree painting of slightly damaged trees with an asphalt-based tree pruning paint will be carried out shortly after damage. Topsoil will not be stripped in woodlots in order to minimize the amount of clearing required for the storage of spoil piles. Specimen trees marginal to the workroom will be flagged and protected from damage. TransCanada also noted that it will restrict all activities to right-of-way and workspace limits. Brush and trees will be felled, parallel to or into the right-of-way, in order to prevent damage to adjacent vegetation in woodlots. The company will dispose of slash by chipping or burning, or re-use by spreading on erosion-prone areas. TransCanada further indicated that it will minimize the number of push-outs required.

Wildlife

TransCanada indicated that its construction schedules for the applied-for facilities will avoid highly sensitive periods for wildlife use. TransCanada proposed a number of measures to avoid or restore significant habitat areas.

The Steinbach Loop crosses an area which is within the breeding ranges of six rare and endangered wildlife species. TransCanada indicated that of the rare and endangered species, the Loggerhead Shrike, Eastern Bluebird and Cooper's Hawk are most likely to occur in the vicinity of the proposed pipeline. TransCanada submitted that due to the paucity of suitable habitat, these species will not likely be found within the area of the Steinbach Loop. TransCanada also indicated that since it is unlikely that rare or endangered species will be found, no nesting surveys have been proposed for the Steinbach Loop. TransCanada contacted the Environment Canada Regional Office in Winnipeg regarding the small amount of suitable habitat throughout the Steinbach Loop for supporting rare and endangered bird species. During the hearing process, TransCanada confirmed that Environment Canada did not have any concerns with respect to TransCanada's recommendation that surveys are not warranted for that loop. However, Environment Canada recommended that construction at the woodlot at MLV 41 + 2.7 km not proceed during the period from 1 May to at least 1 July to minimize disturbance to nesting migratory birds. TransCanada undertook to have, prior to construction activity commencing within the woodlot, its on-site environmental inspector survey the woodlot for active nesting sites and to file the results of this survey with the Board. If active nests of rare and endangered species are found within the woodlot, TransCanada indicated that it will consult with the appropriate agencies to ascertain

suitable mitigation and protection measures, including timing restrictions, to ensure that disturbance to identified nests is minimized.

The Richmond Loop crosses the Highway 17, Class 2 Wetland Complex. Although waterfowl concentrations are not reported for this wetland, the Pied-Billed Grebe is reported to breed and/or forage in the wetland. TransCanada proposed to conduct a wildlife survey for rare, threatened and endangered species prior to construction. TransCanada indicated that if breeding waterfowl and other fauna are encountered, construction will occur outside of the breeding season, which is 30 April to 15 June for waterfowl within the Richmond wetland. If significant wildlife species are identified during the pre-construction survey, TransCanada indicated that it will consult with the District OMNR office to develop appropriate mitigation and protection measures prior to construction.

The most significant wildlife area along the Montreal Line Loop occurs in a large wooded tract at MLV 147 + 32.6 km to MLV 147A. This area has been identified as a deer concentration area. TransCanada submitted that given that construction of the loop is currently scheduled for summer, construction timing restrictions related to diurnal feeding times in deer concentration areas during winter are not required.

A heron rookery has been identified 60 m south of the Feist Lake Loop at MLV 51 + 5 km. TransCanada indicated that it will not initiate construction activity within 1 km of the heronry until after 15 August if it is confirmed as being active in 1995. A pre-construction survey will be conducted in late spring 1995 to determine if the rookery is active. If the survey confirms the rookery is active, TransCanada indicated that the site will be periodically monitored in conjunction with OMNR to determine when nesting activity ceases. If the nests are vacated prior to 15 August, TransCanada will approach OMNR to waive the timing restriction to allow construction to proceed. TransCanada submitted that any clearing requirements to the south side of the right-of-way at this location will be done in consultation with Dryden District OMNR. Further, TransCanada indicated that the pipeline installation will be constructed utilizing a restricted work space and would only include the right-of-way lands previously disturbed.

Stream Crossings and Fishery Resources

The proposed pipeline looping projects cross a number of watercourses which could be adversely affected by construction-related activities. Those activities include clearing and grading, trenching, installation of flow diversions, back-filling, hydrostatic testing and related activities such as equipment maintenance and waste disposal. TransCanada indicated that one of the most serious adverse environmental effects on fisheries could result from increased concentrations of sedimentation downstream of the crossing. With respect to fisheries, TransCanada submitted that pipeline construction could result in the disturbance and loss of existing and potential fish habitat at the stream crossing points, as well as downstream. Streambank erosion, sedimentation and toxic spills could decrease water quality and further reduce fish populations. TransCanada outlined a number of standard mitigative measures to be followed for all watercourse crossings in an effort to limit potential environmental effects associated with wet and dry crossing techniques.

For the Ontario and Québec facilities, TransCanada filed with the Board fisheries resource assessments detailing watercourse sensitivity and fisheries values for the watercourses to be traversed. No natural, permanent watercourses with fisheries potential will be crossed in Manitoba. The Ontario and Québec facilities traverse a number of watercourses, some of which are considered as sensitive stream crossings requiring specific crossing designs because of particular environmental, construction and/or engineering concerns. TransCanada indicated that it will comprehensively evaluate the effect of construction on fisheries habitat in sensitive watercourses to be traversed by the proposed loops before pipeline construction is initiated. Prior to the commencement of construction, TransCanada will submit for Board approval additional

information regarding sensitive stream crossings such as construction designs, typical sediment control plans, and timing restrictions.

TransCanada will further consult with agencies such as the Department of Fisheries and Oceans ("DFO"), the OMNR and the Ministère du Loisir, de la Chasse et de la Pêche ("MLCP") to finalize detailed information regarding stream crossings. TransCanada indicated that it has in place a protocol with OMNR and DFO regarding the planning and construction of stream crossings. This protocol includes provisions for determining detailed information and was established in response to requests by the Ontario Pipeline Coordinating Committee ("OPCC"). Further to these consultations, TransCanada will provide the Board with additional information, such as site specific mitigation and restoration measures and the status of approvals.

TransCanada also indicated that the effects on fisheries resources will be minimized by scheduling in-stream construction (including blasting) to avoid, to the extent practical, the spawning, migration and development periods of fish species. TransCanada submitted that it will adhere to instream construction windows. TransCanada also indicated that for crossings where permanent alteration or loss of fish habitat may occur, a site-specific sediment control plan, and possibly an acceptable compensation plan, will need to be developed.

TransCanada agreed to be bound by the undertakings set out by the OPCC, with the exception of Undertaking 13, on the condition that if at any time compliance with the undertaking should compromise or conflict with the Board's direction or approvals, TransCanada will direct any unresolved concerns to the Board for resolution. Undertaking 13 would require TransCanada to obtain permits from the Ministry of Environment and Energy ("MOEE") to take and discharge water for hydrostatic testing portion of the project. Each permit is issued with a number of conditions. TransCanada indicated that it will accept Undertaking 13 only when a protocol containing a standard set of province-wide permit conditions has been finalized and mutually agreed upon. TransCanada is continuing negotiations with the MOEE through the OPCC on this matter and has indicated that it is optimistic a protocol will be reached. The MOEE argued that it was Ontario's position that the Board should require TransCanada to comply with the undertakings even in the absence of any agreement on the part of TransCanada. In addition, the MOEE indicated that Ontario was of the view that the Board should require TransCanada to comply with the undertakings without reference to the condition of acceptance referred to by TransCanada in its evidence.

For the Manitoba facilities, water withdrawn for hydrostatic testing will be limited to 10% or less of the watercourse flow whenever possible. If greater than 10% of the discharge of a watercourse is required to be withdrawn for hydrostatic testing of the pipe, TransCanada undertook to provide DFO with the site-specific information and an evaluation of impacts to fish and fish habitat, and to provide copies of the same to the Board.

Archaeological and Heritage Resources

TransCanada identified the need for additional archaeology field investigation for the Richmond Loop, the Montreal Line Loop and the Eagle River on the Feist Lake Loop. TransCanada submitted that the field surveys will be completed during August 1994. TransCanada proposed that the Heritage Resource Assessment Reports be filed with the Board 10 days prior to construction, unless otherwise directed by the Board.

As outlined in TransCanada's Environmental Protection Practices Handbook (1991), where possible, known sites will be avoided, and where sites cannot be avoided, they will be excavated and evaluated prior to construction. In the event that archaeological sites or artifacts are discovered during construction, all construction activities at that location would cease until the proper authorities are notified and permission is granted to proceed with construction.

Views of the Board

The Board is satisfied with the environmental information provided by TransCanada with regard to the potential adverse environmental effects which may result from the construction and operation of the proposed loop facilities and is satisfied with TransCanada's proposed monitoring and mitigation measures. The Board will require TransCanada to submit for Board approval, prior to construction, additional information regarding sensitive stream crossings, such as construction designs, typical sediment control plans, and timing restrictions. The Board will also require TransCanada to file, prior to construction, the site specific detailed information with respect to sensitive stream crossings which will be developed in consultation with agencies such as the DFO, OMNR and MLCP. The Board accepts TransCanada's undertakings to the OPCC, excluding Undertaking 13. However, the Board wishes to review for approval the proposed standard conditions or specific mitigative measures (resulting from a resolution with the OPCC or not) that TransCanada intends to use for hydrostatic testing in Ontario. Further, the Board will require TransCanada to consider active nests of migratory birds as well as active nests of rare and endangered species during its survey of the woodlot at MLV 41 + 2.7 km for active nesting sites.

The Board is of the view that if TransCanada's proposed environmental protection measures, as well as those agreed to by TransCanada with all other regulatory agencies, are implemented, the environmental effects of the proposal would be insignificant or mitigable with known technology. Should TransCanada's application be approved, the Board would condition the certificate so as to ensure adherence to those measures and undertakings and to ensure that unresolved issues are adequately addressed prior to construction.

5.3.2 Compressor Station Facilities

TransCanada proposes to install one additional compressor unit at each of Stations 62 (Upsala, Ontario) and 105 (Ramore, Ontario); replace a portable unit at Station 1401 (Iroquois, Ontario); and relocate portable compressor units from Station 119 to Station 116 (North Bay, Ontario) and from Station 211 to Station 802 (Candiac, Québec).

Noise Levels

TransCanada provided the noise levels with all units operating at full power for all stations, except for Stations 62 and 802 where only certain units were in operation. Nighttime noise measurements were taken in order to measure station sound levels during the quietest period of the day (i.e., lowest background noise). TransCanada submitted that the final maximum noise levels at the property line for all upgraded stations will not exceed the greater of 50 dBA or the existing noise level (without the additional proposed compression). TransCanada also submitted that the final noise levels after the proposed modifications at all stations will be in compliance with applicable provincial and/or municipal noise requirements.

TransCanada stated that it would be acquiring additional land at Station 62. The proposed land purchase would provide a noise buffer zone should there be any future development adjacent to the station.

TransCanada indicated that it received a noise complaint with respect to Station 116 on 28 January 1994, whereby nearby residents stated that there appeared to be a general increase in noise emanating from the station since 1991. These residents were also concerned about an intermittent low-frequency rumbling and vibrations detectable at their home. TransCanada measured a nighttime noise level of 52 dBA at this

residence on 16 April 1994. TransCanada indicated that it planned to meet with the residents during the week of 18 July 1994.

TransCanada undertook to file the results of the meeting and copies of the detailed set of noise measurements taken the day of the meeting, including an indication as to whether any of the equipment at the station can readily be silenced in order to alleviate the residents' complaint. TransCanada indicated that the proposed portable unit is currently designed to meet a noise level of approximately 40 dBA at 100 m. The relocation of the portable unit will occur in conjunction with the "A" and "B" Plants at Station 116 being placed on critical standby status and thereby retired from normal operation at this station. TransCanada submitted that, as a result, existing station noise levels, under normal operating conditions, are expected to decrease substantially.

Air Quality

The air contaminants of primary concern at each of the stations are oxides of nitrogen ("NO_x"). In order to determine the impact of NO_x emissions from proposed facilities, TransCanada modelled the dispersion of NO_x to predict maximum concentrations at chosen grid receptor points around the facility. TransCanada indicated that the model chosen for this assessment was the Industrial Source Complex Model, Version 2.

The proposed new 28.3 MW units at Stations 62 and 105 and the new 14.0 MW unit at Station 1401 will initially be installed without dry, low NO_x ("DLN") combustion systems, since this technology will only be commercially available at a later date. TransCanada is committed to retrofitting the proposed units at Stations 62, 105 and 1401 with DLN combustion systems as soon as economically and technically feasible after the systems become commercially available. TransCanada further indicated that the emissions associated with the units equipped with DLN combustion systems will meet the National Emission Guidelines for Stationary Combustion Turbines at the ISO rated power output of the proposed units.

TransCanada indicated that the maximum one-hour average off-site concentrations based on the proposed operating conditions (with and without DLN) at Stations 105 and 1401 are predicted to be below the Federal Objectives. At Station 62, the maximum one-hour average off-site concentrations based on the proposed operating conditions (with DLN) are predicted to be below the Federal Objectives. However, the maximum predicted one-hour average off-site concentrations based on the proposed interim operating conditions (without DLN) is 470 micrograms per cubic metre ("µg/m³"). This concentration is in excess of the Federal Acceptable Objective of 400 µg/m³ and the Ontario Ambient Air Quality Objectives of 400 µg/m³ for nitrogen dioxide ("NO₂"), but less than the Federal Tolerable Objective of 1000 µg/m³ and the Ontario Point of Impingement level of 500 µg/m³. TransCanada indicated that off-site concentrations greater than 400 µg/m³ are predicted to occur about 0.1% of the time (9 hours per year). These concentrations are not predicted to occur consecutively or at the same location for the entire 9 hours.

TransCanada submitted that a minor short-term negative impact associated with air quality may be experienced as a result of the addition of the proposed unit being initially installed without a DLN combustion system at Station 62. TransCanada also submitted that in light of the small number of hours of predicted exceedences, the fact that there are no predicted off-site exceedences of the Federal Tolerable Objective or Ontario Point of Impingement Objectives, and in consideration of the conservative modelling approach employed in the assessment², no negative air quality impacts are anticipated at Station 62. Further, TransCanada did some additional modelling and provided the Board with the maximum predicted NO_x concentration associated with the proposed interim operating conditions at Station 62 for the nearby residents. TransCanada indicated that

² In this assessment, due to the lack of information on background ozone concentrations in the vicinity of the compressor station, the Ozone Limiting Factor has not been taken into account and as a result, it was assumed that 100% of the NO emitted from the stacks is converted to NO₂.

all maximum predicted concentrations are less than the Ontario Ambient Air Quality and Point of Impingement limits. Therefore, TransCanada submitted that there are no health concerns for nearby residents in association with emissions resulting from the operation of Station 62.

The 14.0 MW portable unit which will be relocated to Station 116 is currently fitted with a DLN combustion system. Emissions from this unit meet the National Emission Guidelines for Stationary Combustion Turbines at the ISO rated power output of the unit. TransCanada submitted that the maximum one-hour average off-site concentration of $443 \mu\text{g}/\text{m}^3$ based on the proposed operation conditions at Station 116 is less than the Federal Tolerable Objective, but in excess of the Federal Acceptable Objective. TransCanada also submitted that the predicted air quality associated with the proposed operating conditions indicates a substantial improvement over the existing operation conditions. The off-site operation concentration for the existing compressors is $1276 \mu\text{g}/\text{m}^3$. TransCanada also indicated that for the proposed operating conditions, some exceedences of the Federal guidelines are predicted to occur under worst-case meteorology. TransCanada indicated that exceedences are unlikely to occur at any one location for more than a few hours at a time. Therefore, TransCanada submitted that no significant negative environmental impacts associated with air quality are anticipated at Station 116. TransCanada further submitted that no exceedences of the applicable Federal Air Quality Guidelines or Provincial Point of Impingement limits are predicted to occur at any of the closest residences to Station 116 in association with future operating conditions.

Due to air quality concerns associated with the predicted exceedence at Station 116, TransCanada installed an ambient air monitoring trailer at this location on 11 February 1994. Hourly average data were collected for NO, NO₂, O₃ and various meteorological parameters. TransCanada indicated that, as reported in the environmental assessments, the predicted results assume that 100% of the NO emitted from the stacks is converted to NO₂, whereas observed data at this location indicated that the conversion is much less (i.e., 53% in this example case). TransCanada submitted that a preliminary analysis of the on-site data collected at Station 116 shows that the predicted maximum NO_x concentrations indicated in the environmental assessment for Station 116 may be twice the maximum concentration that would be predicted for NO₂ if the Ozone Limiting Method were employed to calculate the conversion of NO to NO₂.

TransCanada indicated that the maximum off-site predicted NO_x concentration for the proposed unit relocation at Station 802 is $152 \mu\text{g}/\text{m}^3$. This concentration is less than the Federal Objectives. TransCanada further submitted that no exceedences of the applicable Federal Air Quality Guidelines or Provincial Point of Impingement limits are predicted to occur at the closest residences in association with operation of the proposed relocated unit at Station 802. However, the predicted maximum concentrations associated with the continuous operation of the existing Units B1 and B2 at Station 802 will remain unchanged in the future since the proposed relocated 3.2 MW unit will only be used as a standby unit and will operate to accommodate loss of upstream unit power. TransCanada's modelling of ground level NO_x concentrations predicts values exceeding the Federal Tolerable Objective 3% of the time during the summer conditions and 17% of the time during the winter conditions (winter operating conditions assume the simultaneous operation of existing Units B1 and B2, while summer operating conditions assume the operation of Unit B1 or B2). The model also predicts that the Federal Acceptable Objective and the Provincial Level will be exceeded 11% of the time in the summer months and 39% of the time during winter months. Exceedences of the applicable Federal Air Quality Guidelines or Provincial Point of Impingement limits are also predicted to occur at the closest residences in association with continued operation of Units B1 and B2 during worst-case winter operating conditions. TransCanada indicated that in order to collect data at this station to determine the extent of NO₂ exceedences and the appropriate mitigation measures, if required, the ambient air quality and meteorological monitoring trailer located at Station 116 will be moved to Station 802 during the summer of 1994. TransCanada will collect data at Station 802 for nine months and will compare with the model results. TransCanada undertook to file the results of the air quality assessments with the Board, including a description of any proposed mitigative measures.

Views of the Board

The Board is satisfied with the environmental information provided by TransCanada with regard to the potential adverse environmental effects which may result from the addition or relocation of compressors at various stations. The Board is of the view that TransCanada should file with the Board the results of noise emission level monitoring programs and of the source NO_x emissions tests in order to ensure compliance with the National Emission Guidelines for Stationary Combustion Turbines.

With respect to the noise complaint at Station 116, the Board notes that TransCanada undertook to file the results of the meeting with the residents and copies of the detailed set of noise measurements taken at the time of the meeting, including an indication as to whether any of the equipment at the station can readily be silenced in order to alleviate the residents' complaint. The Board wishes to be informed of any comments or noise complaints received as a result of the upgraded station operations, how they have been addressed and whether the complainant is now satisfied, including any development regarding the noise complaint at Station 116.

Regarding the air quality at Station 802, the Board notes that the maximum concentrations of NO_x for the proposed relocated unit are predicted to be below the Federal Objectives. The Board also notes that the predicted maximum concentrations associated with the continued operation of Units B1 and B2 will remain unchanged in the future since the proposed relocated unit will be on a standby status and will operate to accommodate loss of upstream unit power only. Exceedences of the applicable Federal Air Quality Guidelines or Provincial Point of Impingement limits are also predicted to occur at the closest residences in association with continued operation of Units B1 and B2 during worst-case winter operating conditions. Although the Board is satisfied with TransCanada's proposed monitoring of NO_x emission levels at Station 802 to determine the extent of NO₂ exceedences, TransCanada is required to file the results of the air quality assessments at Station 802 taken during winter months, including a description of any proposed mitigation measures. The Board anticipates that in the case of an exceedence of the Federal Objectives and the applicable Federal Air Quality Guidelines or Provincial Point of Impingement limits in association with the continued operation of Units B1 and B2 at Station 802, TransCanada will undertake the necessary steps to comply with the above-noted limits.

The Board will require TransCanada to provide confirmation of acceptance or rejection of the proposed mitigative measures from the appropriate provincial agencies, in the event that those agencies do comment. The Board is of the view that if TransCanada's proposed environmental protection measures, as well as those agreed to by TransCanada with all other regulatory agencies, are implemented, the environmental effects of the proposal would be insignificant or mitigable with known technology. Should TransCanada's application be approved, the Board would condition the certificate so as to ensure adherence to those measures and undertakings and to ensure that unresolved issues are adequately addressed prior to construction.

Chapter 6

Economic Feasibility

The Board examines the economic feasibility of facilities by assessing the likelihood that the facilities will be used at a reasonable level over their economic life, and by determining whether the demand charges will be paid. In the course of its examination the Board considers several factors. TransCanada submitted evidence addressing each of these factors.

TransCanada submitted a report by Sproule which concludes that there will likely be a sufficient long-term supply of gas to keep the pipeline, including the applied-for facilities, utilized at a reasonable level over its economic life.

TransCanada has projected that Eastern Canadian natural gas demand will grow at an average rate of 1.8 percent per year from 1994 to 2010, primarily driven by power generation requirements, and that projected gas demand exceeds the current projected contracts for deliveries through TransCanada's system. TransCanada noted that the short term uncertainties of its forecast stem from the fluidity of the non-utility generation situation in both Ontario and Québec as electrical supply and demand balances in both provinces change. TransCanada also noted that in the long term, the uncertainties relate to the wider range of generating choices available to the utilities as well as the uncertainties in forecast assumptions. Factors such as overall economic growth, the impact of future technological advances, and demand side management programs create uncertainties in the level of electricity demand. Competing fuel prices, updates to utility construction programs, and potential future environmental initiatives such as externalities pricing add uncertainty to the forecast of natural gas use in power generation.

In order to demonstrate the long-term nature of natural gas demand in both the U.S. Northeast and Midwest markets, TransCanada relied on four current demand projections provided by the Gas Research Institute, The American Gas Association, The WEFA Group, and the U. S. Department of Energy/Energy Information Administration. TransCanada indicated that the Midwest market is projected to grow at minimal rates of between 0.2 percent and 1.1 percent per annum and that the Northeast market is projected to grow between 0.8 percent and 1.4 percent per annum between 1995 and 2010.

In its evidence, TransCanada provided an overview of the New York Public Service Commission's proceeding respecting non-utility generation curtailment in Niagara Mohawk's franchise area and of the regulatory changes that could impact the demand for gas in the Northeast power generation sector. TransCanada indicated that it had assessed the positions of its shippers affected by the curtailment proceeding and reported that these shippers felt confident that the curtailment case will not negatively impact their requirements on TransCanada's system.

With respect to other regulatory developments that could affect demand for gas in the power generation sector, TransCanada noted that the U.S. Federal Energy Regulatory Commission ("FERC") intended to deregulate electric power transmission along the same lines that it deregulated the transmission of natural gas. TransCanada indicated that this transition could potentially impact the need for incremental power generation, as well as the willingness of utilities and power developers to commit to new generating facilities. Therefore, TransCanada recognized that current demand projections for natural gas in the U.S. power generation could be overstated. Although regulatory and market uncertainties specific to the power generation sector may impact

natural gas demand over the forecast period, TransCanada expected that the total natural gas demand in Eastern Canada, the U.S. Midwest and Northeast will grow over the long-term. TransCanada therefore concluded that there will continue to be a long-term need for natural gas in the markets that it serves.

Although the levels of U.S. gas imports have historically had little impact on the utilization of its system, TransCanada noted that pipeline capacity providing access to alternative supplies of U.S. gas is currently available, and could be utilized at higher levels in the foreseeable future. TransCanada recognized that Eastern Canadian LDCs intend to diversify their supply and transportation portfolios, and that Canadian export points could potentially become import points through the advent of backhaul transportation services throughout North America, thereby increasing Eastern Canada's access to U.S. gas supplies. However, TransCanada projected that Eastern Canadian demand would not be fully met by TransCanada's currently contracted deliveries, and noted that either additional capacity on the TransCanada system or a combination of the additional capacity with imports would be required to meet the projected demand. As a result, TransCanada submitted that its mainline system could remain utilized at a reasonable level even with a higher level of U.S. imports relative to current levels.

TransCanada provided an overview of a number of expansion projects to serve both the Midwest and the Northeast markets, three of which are expected to increase the market share of natural gas and have a positive impact on future TransCanada deliveries. TransCanada was of the view that these projects indicate that market conditions will continue to be dynamic in the long term, requiring all parties to position themselves competitively. TransCanada expects that the combination of Western Canada Sedimentary Basin supply costs and TransCanada's transportation rates will be competitive in the downstream market, and that this will ensure that TransCanada's system will remain utilized at a reasonable level over the long term. TransCanada also noted that customers continue to seek service from TransCanada over the long term.

With respect to the potential competition from alternative fuels, TransCanada pointed to its own forecast of domestic Eastern Canadian end-use demand which indicates that natural gas is projected to increase its market share through the forecast period.

TransCanada and its expansion shippers provided evidence indicating that, for the new transportation contracts underpinning the expansion, the transportation demand charges will be paid, there is adequate gas supply, upstream and downstream transportation arrangements are or will be in place, all regulatory approvals have or will be obtained, and the financial integrity of the parties to the individual gas sales contracts underpinning the facilities expansion is appropriate.

TransCanada indicated that interstate delivery contracts affected by FERC Order 636 have been restructured or terminated. No further contract realignments are foreseen in the near term on its system as a direct result of the implementation of Order 636.

The proposed facilities are expected to have a minimal impact on TransCanada's tolls. TransCanada is of the view that this will likely not have a material impact on demand for its service.

Views of the Board

The Board is satisfied that the evidence demonstrates that the proposed expansion is economically feasible, given that there is long-term gas supply, long-term domestic and export markets, a strong likelihood that the facilities will be used at reasonable levels over their economic life and that demand charges will be paid. The Board is satisfied that the certificate

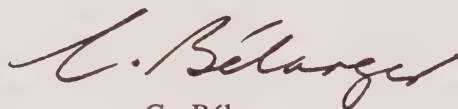
conditions described in Chapters 3 and 4 will adequately ensure that all necessary transportation service contracts, gas supply contracts and related regulatory approvals will be in place prior to the commencement of construction of the approved facilities. In addition to the evidence on the new transportation services supporting the expansion, the Board notes evidence of continued increases in the demand for natural gas forecast in TransCanada's market areas and believes that these factors indicate that TransCanada's facilities will continue to be used at a high level. The Board also notes that no evidence was presented to suggest that despite the increasing competition between pipelines, TransCanada would not continue to be a competitive supplier of transportation services to these markets.

Chapter 7

Disposition

The foregoing Chapters constitute our Decisions and Reasons for Decision in respect of the application heard before the Board in the GH-2-94 proceedings. The Board has found that the proposed facilities are required by the present and future public convenience and necessity. Therefore, the Board will recommend to the Governor-in-Council that a certificate be issued. The certificate will be subject to the conditions outlined in Appendix II.

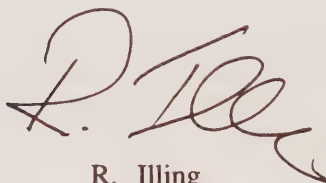
Upon issuance of a certificate, the Board will exempt the facilities, pursuant to section 58 of the Act, from paragraphs 31(c) and 31(d) and section 33 of the Act subject to the exemption order condition outlined in Appendix II.



C. Bélanger
Presiding Member



R. Priddle
Member



R. Illing
Member

Calgary, Alberta
September 1994

Appendix I

List of Issues

ECONOMIC FEASIBILITY

1. The likelihood of the facilities being used at a reasonable level over their economic life and a determination of the likelihood of the demand charges being paid, having regard to, *inter alia*:
 - a) evidence that there is likely to be a sufficient long-term supply of gas to keep the pipeline fully utilized over its economic life;
 - b) evidence on the long-term outlook for gas demand in the market region to be served;
 - c) evidence on the potential competition against gas supplies delivered via TransCanada's system from:
 - (i) supplies of natural gas from other sources;
 - (ii) other energy sources; and
 - (iii) other gas transportation systems;
 - d) evidence on the individual gas contracts underpinning the expansion, including:
 - (i) evidence that the demand charges will be paid;
 - (ii) evidence as to the adequacy of project-specific supply for the proposed expansion;
 - (iii) evidence that adequate gas transportation arrangements exist or will exist both upstream and downstream from the TransCanada system;
 - (iv) evidence that all appropriate regulatory approvals in both Canada and the United States will be in place prior to construction of the new facilities; and
 - (v) evidence on the financial integrity of the parties to the individual gas sales contracts underpinning the facilities expansion;
 - e) the risks associated with the new gas sales, including regulatory risks in all other jurisdictions, allowing for the nature of the market and any previous experience with the market;
 - f) the likelihood of a toll increase caused by the expansion resulting in reduced demand for firm service on the system;
 - g) evidence on the potential impact of increased competition in the northeast United States in light of the implementation of FERC Order 636 on 1 November 1993; and
 - h) evidence on implications for the central Canadian market in the increasingly integrated North American market.

TECHNICAL ISSUES

2. The appropriate design of the proposed facilities and the consistency of that design with the long-term requirements.

ENVIRONMENTAL ISSUES

3. The potentially adverse environmental and socio-economic effects of the proposed facilities.
4. The appropriateness of the location of the proposed facilities and the land rights acquisition process.
5. The adequacy of the public notification process.

TERMS AND CONDITIONS

6. The appropriate terms and conditions to be included in any certificate or order that may be issued.

Appendix II

Certificate Conditions

1. The pipeline facilities in respect of which this certificate is issued shall be the property of and shall be operated by TransCanada.
2. Unless the Board otherwise directs:
 - (a) TransCanada shall cause the approved facilities to be designed, manufactured, located, constructed and installed in accordance with those specifications, drawings and other information or data set forth in its application, or as otherwise adduced in evidence before the Board, except as varied in accordance with subsection (b) hereof.
 - (b) TransCanada shall cause no variation to be made to the specifications, drawings or other information or data referred to in subsection (a) without the prior approval of the Board.
3. Unless the Board otherwise directs, TransCanada shall implement or cause to be implemented all of the policies, practices, recommendations and procedures for the protection of the environment included in or referred to in its application, its environmental reports filed as part of its application, its Pipeline Construction Specifications (1993), its Environmental Protection Practices Handbook (1991), its undertakings made to the Department of Fisheries and Oceans ("DFO") and the Ontario Pipeline Coordinating Committee ("OPCC"), excluding Undertaking 13, or as otherwise adduced in evidence before the Board in the GH-2-94 proceeding, with exception of minor adjustments or changes to these recommendations and practices which may be required as a result of landowner preference or site conditions at the time of construction. These minor amendments to practices, procedures and recommendations will be reviewed by TransCanada's on-site Environmental Inspector and, providing the same standard of environmental protection is achieved, may be implemented without prior Board approval. Landowners and/or the local authorities shall be consulted, where appropriate.

Prior to Commencement of Construction

4. Unless the Board otherwise directs, TransCanada shall, at least 30 days prior to the commencement of construction of any sensitive stream crossings, submit for Board approval, additional information regarding stream crossings. The additional information shall set out:
 - (a) results of the fisheries assessment;
 - (b) construction designs of the crossing;

- (c) typical sediment control plans, including general mitigative and restorative measures; and
 - (d) in-stream timing restrictions.
5. Unless the Board otherwise directs, TransCanada shall, prior to the commencement of construction of any sensitive stream crossings, file additional information regarding stream crossings. The additional information shall set out:
- (a) site specific mitigative and restorative measures to be employed as a result of undertakings to regulatory agencies;
 - (b) evidence to demonstrate that all issues raised by regulatory agencies have been adequately addressed, including all necessary updates to the environmental assessments where deficiencies have been identified; and
 - (c) status of approvals, including environmental conditions.
6. Unless the Board otherwise directs, TransCanada shall, at least 10 days prior to the commencement of construction of the approved facilities, file with the Board a detailed construction schedule or schedules identifying major construction activities and shall notify the Board of any modifications to the schedule or schedules as they occur.
7. Unless the Board otherwise directs, TransCanada shall file with the Board, at least 10 working days prior to the commencement of construction:
- (a) the results of the heritage resources surveys referred to in the application, including any corresponding avoidance or mitigative measures;
 - (b) the results of the rare and endangered vascular plants surveys, referred to in the application, including the methodology, dates and locations of the surveys, and any corresponding avoidance or mitigative measures;
 - (c) the results of the rare and endangered wildlife species surveys, referred to in the application, including the methodology, dates and locations of the surveys and any corresponding avoidance or mitigative measures; and
 - (d) the results of the active nesting migratory birds survey at the woodlot at MLV 41 + 2.7 km, including the methodology, dates of the survey and any corresponding avoidance or mitigative measures.
8. Unless the Board otherwise directs, TransCanada shall, prior to the commencement of construction, file with the Board copies of any provincial permits or authorizations which contain environmental conditions for the applied-for facilities as well as maintaining an information file(s) in the construction office(s) which would include any changes made in the field and permits obtained following the commencement of construction.

9. Unless the Board otherwise directs, TransCanada shall, prior to the commencement of construction, file with the Board an update of the summary detailing the results of discussions with all appropriate special interest groups and regulatory agencies and maintain an information file(s) in the construction office(s) which includes:
 - (a) a detailed listing of all site-specific mitigative measures to be employed as a result of undertakings to special interest groups or regulatory agencies; and
 - (b) an explanation of any constraints identified that may affect the construction program.
10. Unless the Board otherwise directs, TransCanada shall, prior to the commencement of construction:
 - (a) serve the Heritage Resource Surveys on the Governments of Ontario and Québec;
 - (b) seek the opinion of each provincial government described in subsection (a) above concerning the acceptability or non-acceptability of the Heritage Resource Surveys; and
 - (c) advise the Board of the respective opinions of each provincial government described in subsection (a) above, or of the Applicant's inability to obtain an oral or written opinion from one or more of the provincial governments described in subsection (a) above.
11. Unless the Board otherwise directs, TransCanada shall, prior to the commencement of construction through the Highway 17 Class 2 Wetland Complex, MLV 1216 + 9.3 km and MLV 1216 + 10.1 km, file with the Board the detailed construction plan, including the comments received from Ontario Ministry of Natural Resources regarding the detailed construction plan.
12. Unless the Board otherwise directs, TransCanada shall, at least 15 days prior to the commencement of the hydrostatic testing portion of the project in Ontario, submit for Board approval additional information regarding standard conditions or specific mitigative measures (resulting from a resolution with the OPCC or not) that TransCanada intends to use for hydrostatic testing in Ontario.
13. Unless the Board otherwise directs, TransCanada shall, prior to the commencement of construction of the approved facilities, demonstrate to the Board's satisfaction that:
 - (a) in respect of new firm export volumes, all necessary United States and Canadian federal regulatory approvals, including applicable long-term Canadian export authorizations, have been granted; and

- (b) with respect to the transportation services of new firm volumes on the TransCanada system:
 - (i) transportation contracts have been executed;
 - (ii) all necessary United States and Canadian regulatory approvals have been granted in respect of any necessary downstream facilities or transportation services; and
 - (iii) gas supply contracts have been executed.
- 14. Unless the Board otherwise directs, TransCanada shall, prior to the commencement of construction of any of the approved facilities, submit for Board approval:
 - (a) requirements tables in the same format as Tables 2, 3 and 5 of Subtab 1 under the Tab "Requirements" of Exhibit B-1 from the GH-2-94 proceeding, showing the base case requirements and those requirements for which Condition 13 has been satisfied; and
 - (b) flow schematics of the TransCanada system demonstrating that those approved facilities which are to be released for construction are necessary to transport the requirements referred to in subsection (a).

During Construction

- 15. Unless the Board otherwise directs, TransCanada shall, during construction, ensure that specialized habitat for wildlife and plants with a designated status will be avoided, relocated or restored in consultation with appropriate regulatory agencies.
- 16. Unless the Board otherwise directs, TransCanada shall file with the Board, prior to seeding, any variations in the recommended seed mixes as outlined in the assessment reports, unless these changes are requested by the landowner.
- 17. Unless the Board otherwise directs, TransCanada shall, during construction, file with the Board monthly construction progress and cost reports, in a format to be determined through consultation with Board staff, providing a breakdown, by location and facility, of costs incurred during that month, the percentage of each activity which has been completed and an update of costs to complete the project.
- 18. TransCanada shall, during construction, maintain for audit purposes at each construction site, a copy of the welding procedures and non-destructive testing procedures used on the project together with all supporting documentation.

Post Construction

19. Unless the Board otherwise directs, TransCanada shall, within six months of putting the additional facilities into service, file with the Board a report providing a breakdown of the costs incurred in the construction of the additional facilities, in the format used in Schedules 4 through 15 of subtab 9 under Tab "Facilities" of Exhibit B-1 to the GH-2-94 proceeding, setting forth actual versus estimated costs, including reasons for significant differences from estimates.
20. Unless the Board otherwise directs, TransCanada shall file with the Board a post-construction environmental report within six months of the date that the last leave to open for each loop is granted for the additional facilities. The post-construction environmental report shall set out the environmental issues that have arisen up to the date on which the report is filed and shall:
 - (a) indicate the issues resolved and those unresolved;
 - (b) describe the measures TransCanada proposes to take in respect of the unresolved issues; and
 - (c) provide the following information:
 - (i) the locations of slumping and erosion problems related to the presence of marine clay soils along portions of the Richmond Loop, Montreal Line Loop and Philipsburg Loop;
 - (ii) the locations of any areas of native vegetation identified along the Steinbach Loop; and
 - (iii) an estimate indicating how much merchantable versus non-merchantable timber was used for corduroy or erosion control purposes along the Feist Lake Loop.
21. Unless the Board otherwise directs, TransCanada shall file with the Board, on or before the 31 December that follows each of the first two complete growing seasons following the post-construction environmental report referred to in Condition 20 is filed:
 - (a) a list of the environmental issues indicated as unresolved in the report and any that have arisen since the report was filed;
 - (b) a description of the measures TransCanada proposes to take in respect of any unresolved environmental issue; and

- (c) provide detailed monitoring results of the following items:
 - (i) the effectiveness of the reclamation program, including any recommendations for future reclamation programs;
 - (ii) the stabilisation of any locations with slumping and erosion problems; and
 - (iii) the reclamation of any areas of native vegetation, the Highway 17 Class 2 Wetland Complex and the deer concentration area along the Montreal Line Loop.

During Operations

- 22. Unless the Board otherwise directs, TransCanada shall, one month after the commencement of operation of the upgraded stations, file with the Board the results of the source NO_x emission (commissioning) tests indicating whether the compressor units are in compliance with the National Emission Guidelines for Stationary Combustion Turbines.
- 23. Unless the Board otherwise directs, TransCanada shall, eight months after the commencement of operation for the upgraded stations, file with the Board, a monitoring report for the said station, which details the results of an appropriate monitoring program. This report should include, but not be limited to:
 - (a) the noise emission levels at the source, the fence line and the three closest residences at the maximum operating level; and
 - (b) any comments or complaints received as a result of station operations, how they have been addressed and whether the complainant is now satisfied.

Expiration of Certificate

- 24. Unless the Board otherwise directs prior to 31 December 1996, this certificate shall expire on 31 December 1996 unless the construction and installation with respect to each of the additional facilities has commenced by that date.

EXEMPTION ORDER CONDITION

1. TransCanada, prior to the commencement of construction of any specific loop section referred to in this Order, except as provided in subsection (b), shall:
 - (a) demonstrate to the satisfaction of the Board that all required land rights have been obtained along the entire loop section; and
 - (b) in the event that all required land rights have not been acquired within a specific loop section referred to in this Order, any portion or portions thereof may be constructed provided that, prior to commencing construction on any portion or portions of the loop section, TransCanada shall demonstrate to the satisfaction of the Board that the rights, as prescribed in the Act, of the landowners along the portion or portions of the loop section for which TransCanada has not yet obtained the required land rights, will not be prejudiced by the construction of the portion or portions of the loop section.

